

A History of the Giza Necropolis

Volume 1

George A. Reisner

A HISTORY OF THE
GIZA NECROPOLIS

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GIZA
NECROPOLIS

VOLUME I

BY

GEORGE ANDREW REISNER

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DEDICATED
TO THE MEMORY OF
AUGUSTUS HEMENWAY

PREFACE

THE excavations of the expedition directed by myself were carried out in the original concession granted to me in 1902 and the concession granted to Schiaparelli, transferred to me in 1906. In 1902-5 the expedition under my guidance was the 'Hearst Expedition' of the University of California. In 1905 the expedition was transferred to Harvard University and the Boston Museum of Fine Arts. The work of these two expeditions was continuous and the persons comprising the staff changed from year to year. Thus the excavations and the records now being published as *The Giza Necropolis* were carried out by many persons. The list of chief assistants who have directed the field work at Giza at different periods is as follows:

1. A. C. Mace (Oxford), 1902-3, 1905-6.
2. A. M. Lythgoe (Harvard), 1905-6.
3. C. M. Firth (Oxford), 1906-8.
4. Oric Bates (Harvard), 1908.
5. C. S. Fisher (Pennsylvania), 1909-15.
6. Dows Dunham (Harvard), 1914-16, 1925-6.
7. Alan Rowe, 1923-5.
8. N. F. Wheeler (Lt. Comm. R.N.), 1925-33.
9. William Stevenson Smith (Harvard), 1930.

Two other specialists must be mentioned who in the early years recorded reliefs in mastaba chapels:

10. N. de G. Davies (Edinburgh), who in 1905-6 copied the reliefs in a number of mastabas (G 1029, G 1151, G 1234, G 2001, &c.).
11. Mrs. C. M. Firth, 1906-7, who copied the reliefs in the chapels of the Mycerinus Quarry and G 2184.

Since that time the recording of the reliefs has been continued by Hansmartin Handrick, William Stevenson Smith, and Nicholas Melnikoff, while Miss Elizabeth Eaton has copied the reliefs from Giza in the Boston Museum.

Since 1910 many of the Giza reliefs have been painted in oil by Joseph Lindon Smith, Honorary Curator of the Egyptian Department of the Boston Museum of Fine Arts. These paintings are now on exhibition in the Boston Museum.

The following persons have given valuable assistance in recording:

12. Earle Rowe (Brown), 1912.
13. L. C. West (Harvard), 1912-14.
14. O. G. S. Crawford (Oxford), 1913.
15. Lyman Story, 1914-17.
16. R. Howe, 1914.
17. W. G. Kemp, 1914-17.
18. Ashton Sanborn (Harvard), 1919-21.
19. Amory Goddard (Harvard), 1922-3.
20. George Vaillant (Harvard), 1923-4.

21. T. R. D. Greenlees (Oxford), 1924-6.
22. A. B. Hawes (Harvard), 1925-6.
23. H. P. Clawson, 1927-8.
24. Hansmartin Handrick, 1929-39.
25. Alexander Floroff, 1934-9.
26. Francis Olcott Allen (Princeton and Chicago), 1938-9.

Many of the persons listed above have directed field work at other sites for the expedition, particularly Earle Rowe, Lyman Story, L. C. West, and W. G. Kemp.

The present volume has been prepared for the press by the following members of the staff of the expedition:

1. My chief assistant, W. S. Smith, who has made a special study of the sculptures and who has prepared the drawings of reliefs which appear in the appendixes.
2. F. O. Allen, who has specialized in the inscriptions.
3. Miss Evelyn Perkins, who has given me assistance in studying the records and in the preparation of the text.
4. Miss Elizabeth Eaton, of the Egyptian Department of the Boston Museum of Fine Arts who has prepared many drawings of reliefs, most of which will appear in the following volumes, but a few of which are included in the appendixes.
5. Alexander Floroff, who made the maps and many of the drawings.
6. Hansmartin Handrick, who has made the drawings of objects for the volume.
7. Nicholas Melnikoff, who made tracings of the drawings for the printer and recorded reliefs in several chapels which will appear in Volume II.
8. Mohammed Said Ahmed, assistant surveyor and head-reis.
9. Mahmud Said Ahmed, assistant publication secretary.

In addition to these members of the staff, a number of Egyptian photographers trained by the expedition have taken almost all of the photographs used in Volume I. The photographs from the beginning have been one of the most important records made by the expedition. In the years of the Hearst Expedition the director of the excavations took his own photographs and developed them at night. When I was doing this work I had as assistant in the darkroom Said Ahmed Said and found that he had learned the process of developing the negatives and fixing them. In 1901 I turned over the darkroom work to Said Ahmed. By 1906 I had trained this boy to take the photographs and after that I turned over to him all the work of photography. He trained other boys and we had a succession of peasant boys who acted as photographers: Bedawi Ahmed, Mahmud Shadduf, Bishari Mahfud, Mustapha Abu-el-Hamd, Mohammedani Ibrahim (1912-39), and Dahi Ahmed. Other boys learned the work in the darkroom. The excellence of the plates in this volume is due to the work of the Egyptians trained by the expedition as photographers.

The expedition acknowledges its debt to the staff of reises and the workmen who carried out the excavations at Giza. The organization of the force of workmen was highly developed early in the work at Giza to carry out methods devised by me in consultation with the head-reises. The methods of excavation will be explained in another place. The head-reises working at Giza were as follows:

1. Salman el Firnisi, 1902-4.
2. Mahmud Ahmed Said, 'El-Meyyet', 1905-7, 1926-31.
3. Said Ahmed Said, 1908-26, the most gifted foreman who ever worked for the expedition.

4. Husein Aleo, 1931-3.
5. Duwy Mahmud Ahmed, 1933-5.
6. Mohammed Said Ahmed, 1936-9.

The last two reises kept the high standard set by Said Ahmed Said. Duwy Mahmud Ahmed was loaned to the University of Chicago Expedition working at Megiddo and was succeeded as reis by his cousin Mohammed Said Ahmed.

The process of the excavations has been recorded in Chapter I, pp. 22-5. The early nucleus cemeteries of the Western Field have been treated in Appendixes A-D of Vol. I and in these appendixes every mastaba of those cemeteries is described in detail. In Vol. II the following chapters will be printed:

Chapter IX: Service Equipment of the Chapels: Statues, Offering-basins, and Vessels.

Chapter X: Burials and Burial Equipment.

Chapter XI: Funerary Equipment found in Burial Chambers: Canopic Receptacles; Reserve-heads; Stone Vessels; Pottery.

Chapter XII: Funerary Equipment found in Burial Chambers: Miscellaneous Objects.

Chapter XIII: Funerary Equipment found in Burial Chambers; Miscellaneous Objects (continued).

Chapter XIV: 'The Masons' Lines and the Quarry-marks found in the Mastabas.

In the appendixes will be described the nucleus mastabas in the Cemetery en Échelon and in Cemetery G 7000. Vol. III will contain Chapter XV: The Chronology of the Finished Mastabas of the Giza Necropolis; and historical chapters on the royal family of Dynasty IV and the important families buried in the Giza Necropolis. The appendixes will contain the description of the secondary mastabas in the Western Field. Vol. IV will complete the description of the secondary mastabas and the rock-cut tombs.

I thank Professor Hermann Junker for his friendly co-operation in the study of the mastabas and chapels at Giza. We have worked side by side since 1911 and have had free access to each other's excavations. We are indebted to his three volumes on his excavations at Giza for the material in those books. We are also indebted to Selim Bey Hassan for a number of drawings used by us in the present book and his friendly co-operation in his work at Giza. The objects found by Professor Steindorff and Professor Junker are now in Leipzig, Hildesheim, Vienna, and Tübingen, and officials of these museums have permitted my chief assistant, W. S. Smith, to examine all those objects. We are also grateful to the Berlin Museum for allowing Mr. Smith to examine the sculptures taken by Lepsius from Giza. We are grateful to the officials of the Turin Museum for the facilities given us to study the material brought by Schiaparelli from Giza to Turin. Mr. Atherton Curtis was kind enough to allow Mr. Smith to examine the slab-stela of the Princess Nefert-yabet in his collection in Paris, and the Egyptian Departments of the Louvre and the Copenhagen Museum, as well as the Barracco Collection in Rome, have assisted us with the material from the chapel of Nofer.

To the Associate Curator of the Egyptian Department of our own museum, Dows Dunham, and his assistant, Elizabeth Eaton, we are indebted for continual co-operation in reporting on objects in the Boston Museum of Fine Arts. They have also sent us many scale drawings of reliefs and statuettes.

The proof-sheets have been read by W. S. Smith, assisted by F. O. Allen. In the transliteration of the hieroglyphs we have generally followed the Erman-Grapow Dictionary and Dr. Alan Gardiner, but in text prepared through a number of years some variations have crept in. In general, the text has not been translated unless it is an unusual one. Most of the texts give titles and names. Francis Olcott

Allen is preparing a treatise on the names and titles in which the significance of the titles will be reconstructed as far as possible.

The grateful thanks of the Expedition are due to two institutions, Harvard University and the Boston Museum of Fine Arts. The Museum of Fine Arts has borne the cost of the Expedition since 1905 and has continued this expenditure during the preparation of the volumes on the *History of the Giza Necropolis*. Harvard University has borne the cost of the volume and has undertaken to bear the cost of the printing of the following volumes.

Our work at Giza from 1902 to 1939 has been greatly facilitated by the co-operation of the Egyptian Department of Antiquities. For their friendly assistance during this long period the thanks of the Expedition are due to all the officials of the Department.

Finally, I wish to express my indebtedness to John Johnson and the Oxford University Press for their painstaking care in the printing of this volume.

CONTENTS

	PAGE
I. THE HISTORICAL RELATIONS OF THE GIZA NECROPOLIS	1-9
INTRODUCTION	1
Situation; relation to Memphis and the other cemeteries and pyramids serving that capital; list of known royal tombs from Dyn. I to Sneferuw.	
1. CHEOPS AND HIS PLACE IN THE LIST OF KINGS	2
Second king of Dyn. IV; his ancestry and royal descendants.	
2. THE PYRAMID OF CHEOPS AND ITS RELATION TO OTHER PYRAMIDS	2
Construction of the Pyramid of Cheops; introduction of a new type of substructure for royal tombs; use of granite.	
3. THE DEVELOPMENT OF THE PRIVATE MASTABA IN THE REIGN OF CHEOPS	4
a. The Stage reached by the Crude-brick Mastaba at the Accession of Cheops	4
Filled and solid c.b. mastabas; two-niched mastabas; interior and exterior chapels; predominance of the shaft type of burial place; early types of burial shafts.	
b. Evidence of Stone Mastabas previous to Cheops	5
At Dahshur North; at Abu Roash; mastabas in the Zoser enclosure; Persistence of c.b. mastabas in Dyn. IV-VI.	
c. Introduction of the Stone Mastaba by Cheops	6
The four nucleus cemeteries founded by Cheops at Giza; construction based on form of c.b. mastaba with variations in details; change in slope of outer walls arising out of stepped construction of stone mastabas; uncased cores with exterior chapels; use of slab-stelae; cased mastabas of the two-niched type with exterior stone chapels; introduction of massive core-work; early massive cores faced with small stepped courses with a slab-stela and exterior chapel; introduction of the interior chapel in massive cores at the end of the reign of Cheops; one-shaft mastabas and twin mastabas; introduction of the two-shaft mastaba in the reign of Chephren; break with the Saqqarah tradition in the early stone mastabas; origin of the L-shaped (or asymmetrical) chapel.	
II. THE TOPOGRAPHY OF THE GIZA NECROPOLIS	10-19
(Map No. 1 showing the whole necropolis.)	
INTRODUCTION	10
The situation of the three pyramids of kings and the pyramids of queens attached to each; their chronological order; the fields of mastabas and rock-cut tombs subsidiary to each of the pyramids.	
1. THE RECONSTRUCTION OF THE ROCK-PROMONTORY	10
The dome-shaped promontory; faults, cracks, and weathering.	
2. ALTERATION OF ROCK PROMONTORY BY QUARRIES	11
Visible quarries; partly obscured by great clearing operations after the finishing of the three pyramids; workmen's barracks; the chronological order of the quarries clearly discernible; quarries of Cheops, Chephren, and Mycerinus.	
3. THE FIELDS OF TOMBS IN THE GIZA NECROPOLIS	12
Five fields of mastabas and rock-cut tombs.	
a. The Western Field	13
(Map No. 2: The Western Field.)	
Artificial boundaries on east and south: topography of the terrace on which the Western Field is situated.	
(1) <i>The Four Nucleus Cemeteries and G 2000</i>	13
(1) Cem. G 1200: ten mastabas.	
(2) Mastaba G 2000: isolated great mastaba.	
(3) Cem. G 2100: eleven mastabas.	
(4) Cem. G 4000: forty-two mastabas.	
(5) Cem. en Échelon: twenty-five mastabas.	
Total, 89 cores built on independent primary sites.	
On these is based the chronological order of the later mastabas ranging from Mycerinus to Dyn. VI.	

	PAGE
(2) <i>The Mastabas Secondary to the Blocks of Nucleus Cores</i>	14
The mastabas in the streets and avenues of the nucleus cemeteries; the mastabas in the large open spaces between and around the nucleus cemeteries; family complexes; mastabas on independent sites and their subsidiary mastabas.	
(3) <i>Ancient Pillaging, Sanding-up of the Cemetery, and Intrusive Burials</i>	14
Sanding-up of the cemeteries; intrusive burials; theft of building stone, pillaging of burial-chambers before the sanding-up; cause of the sanding-up; wind-blown sand from the west; condition of the field in modern times; early series of intrusions after Dyn. VI and later intrusions in Saite-Ptolemaic-Roman times.	
b. <i>The Eastern Field: Cemetery G 7000</i>	15
The pyramid causeway; mastabas built south of the causeway.	
(1) <i>The Nucleus Cemetery of the Eastern Field</i>	16
The three small pyramids of queens of Cheops; the eight twin-mastabas in two rows and four lines standing east of the queens' pyramids; additions to the nucleus cemetery; the great mastaba of Prince Ankh-haf (G 7510) followed by the mastabas G 7650 (Merytyetes), G 7530+40 (Hetep-heres II), G 7450, G 7350 (a queen), and G 7050 (Queen Nefert-kauw); second addition of eight nummulitic mastabas.	
(2) <i>The Secondary Cemetery of the Eastern Field</i>	16
Mastabas intruded in streets and spaces; lines of later mastabas prolonging the lines of the nucleus cemetery.	
(3) <i>Ancient Pillaging, Sanding-up of the Cemetery, and Intrusive Burials</i>	17
Complete plundering of the large mastabas; removal of the white casing of pyramids and large mastabas; sand blown in from SW; first intrusions in Saite period; reconstruction of the temple of pyramid G I-c as a temple of Isis in Dyn. XXI; intrusive burials of Saite-Ptolemaic period centred around the temple of Isis.	
c. <i>The Cem. G I S</i>	17
Nucleus line of ten cores, south of First Pyramid; secondary mastabas.	
d. <i>The Quarry Cemetery West and South-east of the Second Pyramid</i>	18
e. <i>The Mycerinus Cemetery</i>	18
The three small pyramids of queens; no nucleus cemetery of mastabas; in quarry, one large rock-cut tomb; small mastabas of Dyn. V-VI on the quarry terraces and on the cliff north of the quarry; no serious theft of stone.	
III. ANCIENT AND MODERN RESEARCH IN THE GIZA NECROPOLIS.	20-26
1. THE CLASSICAL WRITERS	20
Herodotus, Diodorus Siculus, Strabo, Pliny; mention of the three great pyramids, some queens' pyramids and the Great Sphinx; casing of pyramids intact or nearly intact; lower passage of the Cheops Pyramid already open.	
2. ACCOUNTS OF THE ARAB HISTORIANS	20
Burial-chambers of all three pyramids plundered; penetration of upper chambers of the Cheops Pyramid by the Abbasside prince Māmūn (813-33); Karakush, acting for Saladin, denuded the casing of a number of 'small pyramids' for building stone; attempt of El-Malik el-'Aziz in A.D. 1196, to destroy the Third Pyramid; date of removal of pyramid casings uncertain; coins found at Third Pyramid show that the destruction of the casings was probably begun under the Aiyubides (A.D. 1171-1250) and continued until the last century.	
3. THE EARLY EUROPEAN TRAVELLERS	21
The accounts of travellers down to A.D. 1800; the scientific expedition of Napoleon (A.D. 1798-1801).	
4. EXCAVATIONS IN THE NINETEENTH CENTURY	21
Caviglia, Belzoni, Howard Vyse and Perring, Lepsius (directing the great Prussian Expedition), Auguste Mariette; scholars who recorded inscriptions; Piazza Smythe, Sir Flinders Petrie, J. and M. Edgar, survey and levelling by Survey-General of Egypt, Borchardt.	
5. THE SYSTEMATIC EXCAVATION OF THE GIZA CEMETERIES	22
Granting of archaeological concessions for the Giza Pyramids in 1902 to Prof. Steindorff (for Leipzig University), to Prof. Schiaparelli (for the Turin Museum), and to myself (for the University of California); division of the site in three equal parts partly by lot and partly by agreement; the transfer of my concession to Harvard University and the Boston Museum of Fine Arts (1905); granting of a concession for the ground south of my concession at the Third Pyramid to Sir Flinders Petrie in 1906; transfer of the Schiaparelli concession with his consent to myself (1906); transfer of the German concession to Prof. Junker (for the	

University of Vienna and the Hildesheim Museum, 1911); the final transfer of the German Concession to Prof. Selim Hassan (for the Egyptian University, 1928).

a. The Excavations of the Hearst Expedition 23

The Wady Cemetery: Cem. G 1000; Cem. G 1100; Cem. G 1200; Cem. G 1300; Cem. G 1400: 1903-4, 1904-5.

b. The Excavations of the Harvard-Boston Expedition 24

Excavation of Cem. G 2000 and the western part of G 2100: 1905-6.

Excavation of the Pyramid temple of Mycerinus: 1906-7; work suspended in 1907-9 for the Nubian Archaeological Survey.

Excavation of the Valley Temple of Mycerinus: summer 1908, 1909-10 (winter).

Excavation of the Queen's Temple (G III-a) and the Quarry: 1909-10.

Excavation of the Cem. G 2100 continued in 1911-12.

Excavation of the northern end of the Cem. en Échelon and the mastabas added to the north and east of that cemetery: 1911-12, 1912-13.

Completion of the excavation of the Mycerinus Quarry Cem.: 1912-13.

Excavation of Cem. G 4000, the four southern rows assigned originally to Schiaparelli: 1913-14, 1914-15, 1915-16.

From 1916 to 1923 the expedition was engaged on the excavation of the Pyramids of Napata and Meroe.

Work resumed at the Pyramids in the summer of 1924 when the temples of the small pyramids, G III-b and G III-c, were excavated.

Excavation of the Eastern Field, Cem. G 7000: 1924-31.

Excavation of Cem. G 6000 in the Western Field: 1925-6.

Subsidiary excavation in the Western Field:

(1) Cem. G 1600 north of Cem. G 1300: 1931.

(2) Northern part of Cem. G 2100: 1932-3.

Minor clearing operations: 1933-9.

c. The Excavations of Other Expeditions 25

Sieglin Expedition (Prof. Steindorff); middle third of Western Field; temples of the Second Pyramid: 1903-10.

The Vienna Expedition (Prof. Junker) continued excavation of the middle third of the Western Field: 1911-14, 1925-7.

Junker's expedition also excavated the Cem. G I S: 1927-9.

The Ekeley B. Coxe Jr. Expedition of the University of Pennsylvania under Dr. C. S. Fisher excavated Cem. G 3000 in our concession north of Cem. G 1400: see Fisher, *The Minor Cemetery at Giza*.

M. Baraize, for the Department of Antiquities, has excavated the Great Sphinx and continued clearing eastwards: 1923-35.

Prof. Selim Bey Hassan, for the Egyptian University, began the excavation of the Cheops-Chephren Quarry Cemetery in 1928 and has continued to the present time.

IV. THE BASIS OF THE GENERAL CHRONOLOGY OF THE GIZA NECROPOLIS AND THE PRINCIPLES FOR DETERMINING THE DATES OF THE INDIVIDUAL MASTABAS 27-36

1. THE CHEOPS CEMETERY 27

The First Pyramid, the pyramids of queens and the mastabas of children and officials; general conception.

2. THE PRINCIPLES ON WHICH MASTABAS MAY BE DATED 29

a. Stages in the Construction and Use of Mastabas 29

The stages of the older graves and in the mastabas of Dyn. I-III. Stages increased by the introduction of the stone mastabas of Giza: core mastabas, generally five stages, (1) core, (2) excavation of shaft and burial chamber, (3) construction of offering chapel and casing, (4) decoration of the chapel, (5) burial: stages in construction of later filled mastabas.

b. The Indicia for dating the Different Stages 30

(1) Stage 1, the core, determined by type and situation; evidence afforded by slab-stelae.

(2) Stage 2, excavation and preparation of burial-place, determined by type forms and rarely by masons' marks on stone lining.

(3) Stage 3, construction of chapel and casing also by type forms, rarely by masons' marks and quarry inscriptions.

(4) Stage 4, the decoration of the chapel walls; the finished state of the mastaba.

(5) Stage 5, the burial, by the funerary furniture; seal impressions of royal officials; inscribed vessels and other furniture; archaeological group presented by furniture.

	PAGE
c. The Principles for determining the Date of the Decoration of a Chapel	31
Comparison of decorations of chapels; chapel types.	
(1) <i>Names and Titles on Chapel Walls</i>	31
The titles of king's son and king's daughter; the honorary titles 'king's son' and 'king's daughter'; the title of <i>rh nšwt</i> (king's clansman) and <i>rh t nšwt</i> ; determination of the king referred to in the above titles; value of other titles mentioning the priesthood of a king or a pyramid chapel decorated after the reign of the king named in the title.	
(2) <i>Names compounded with the Name of a King</i>	33
The naming of children; the inheritance of names; the effect of the holding of royal funerary endowments. Names compounded with the name of a king do not date the owner of the name necessarily to the reign of that king.	
(3) <i>Names of Estates</i>	34
Estate names compounded with name of a king mark estates once acquired by that king; methods of transfer of royal estates to his family or funerary priests; transfers of royal estates by royal heirs to their descendants or funerary priests; inheritance of royal estates in funerary endowments from <i>ka</i> -priests to their descendants; general conclusions.	
(4) <i>Names and Titles of Relations</i>	35
Reconstruction of family groups of more than one generation; use of such family groups in dating mastabas.	
(5) <i>Biographical and Similar Inscriptions</i>	35
Biographies mentioning kings; notices of kings under whom a man lived; wills and deeds.	
(6) <i>Dated Inscriptions regarding Death and Burial</i>	36
Record of date of death and burial on the doorway of the tomb of Meresankh III.	
 V. THE CONSTRUCTION AND THE TYPES OF MASTABA CORES IN THE NUCLEUS CEMETERIES	 37-84
1. MATERIALS AND METHODS OF CONSTRUCTION OF THE CORE-MASTABAS OF THE NUCLEUS CEMETERIES	37
a. The Clearing of the Rock Surface for Foundations	37
Disposal of rubbish.	
b. Kinds of Building Stone used in Core-mastabas	37
Local stone used in the cores; yellow (drab) and grey nummulitic limestone; occurrence of the different kinds of local stone in the nucleus cemeteries.	
c. Method of Construction of the Core-mastabas	38
Dressing of the rock emplacement; construction <i>pari passu</i> with retaining wall, shaft-lining and filling of core with rubbish or masonry; in all types of cores.	
Finishing of all stepped faces of the small course mastabas.	
All cores of massive masonry intended to be faced with stepped courses of small masonry or cased with fine white limestone.	
2. THE TYPES OF MASTABA CORES	39
Type I a: c.b. filled mastaba.	
Type I b: solid c.b. mastaba.	
Type II a: filled stone mastaba with retaining wall of small blocks set in low stepped vertical courses.	
Type II b: solid stone mastaba with retaining wall as II a.	
Type III: retaining wall of massive grey nummulitic blocks set in high stepped courses; filled with rubbish or more or less solidly with large blocks; faced with stepped courses of small blocks as type II a and b.	
III-i: without recess for interior chapel.	
III-ii: with recess for chapel constructed in massive core and faced as type III-i.	
Type IV: massive core as type III but not faced with stepped courses of small blocks.	
IV-i: without recess for interior chapel.	
IV-ii: with recess for chapel reconstructed later.	
IV-iii: constructed with recess for interior chapel.	
IV-iv: massive core, the casing of which has been prolonged southwards to include an interior chapel.	
TYPES OF LATER MASTABAS:	
Type V: retaining wall of white limestone backed with nummulitic blocks; with interior chapel of type (3).	

Type VI: retaining wall or casing of different types of masonry with interior chapel of type (3).

Type VII: as type VI with interior chapel of type (4).

Type VIII: as type VI-VII with interior chapel of type (5), (6), or (7).

Type IX: retaining wall or casing as type VI, with exterior chapel of type (8).

Type X: mastaba as type IX but with open-air chapel of type (9).

Type XI: mastaba as type X but without niches preserved, with chapel of type (9 d).

Evidences of the chronological order of core-types I-IV.

Evidence afforded by the number of shafts: twin-mastabas; annex mastabas; origin of the two-shaft mastaba.

List of one-shaft mastabas.

List of two- and three-shaft mastabas.

Multiple-shaft mastabas of Dyn. V-VI.

Chronological order of the types and subtypes of mastaba-cores.

3. THE SIZES OF THE CORES AND THE WIDTH OF THE STREETS 56

a. The Sizes of the Cores 56

Measurements taken at rock-level; mastabas built on a higher level, the *nfrw*-level; arbitrary variations in widths.

Table of the mean measurements of the original cores of the nucleus cemeteries, excluding six mastabas of abnormal size and two mastabas of type III.

Cem. G 1200: 9 mastabas of type II a.

Cem. G 2100: 7 mastabas of type II a.

Cem. G 4000: 4 mastabas of type II b.

Cem. G 4000: 34 mastabas of type IV-i.

Cem. G 4000: 1 mastaba of type II a.

Cem. en Échelon: 25 mastabas of type II a.

Total: 80 mastabas.

The size of the normal mastaba-core of the Western Cemeteries.

Approximation of core-type III-i to normal size.

Seven mastabas of abnormal size, five larger than normal size and two smaller.

The large size of the normal core of the Eastern Field; twelve original cores; mean measurements.

Abnormal size of the cores of the twin-mastabas in Cem. G 7000; mean of north row of four cores; mean of south row of four cores.

Sizes of mastabas on independent sites added to the nucleus cemeteries, later in date; five massive cores added to the nucleus cemetery of the Eastern Field; sizes of the nummulitic mastabas of type VI added as the second addition to Cem. G 7000; sizes of outlying mastabas of the Western Field; cores of the Cem. G I S.

Variation from the normal sizes shown by the proportion (length divided by width) of the cores; proportions of cores of the nucleus cemeteries follow the old proportions of the c.b. mastabas with stairway substructure.

b. Widths of the Streets and Avenues 61

Definition of 'street' and 'avenue'; effect of variation in size of mastaba cores; streets narrowed by fall of rock slope; comparison of the width of streets and avenues in the nucleus cemeteries.

4. MARKS OF OWNERSHIP AND ASSIGNMENT OF THE MASTABA-CORES 64

Slab-stelae; manner of use; list of slab-stelae.

5. COMPOSITE CORES OF TWO TYPES OF CORE-WORK 65

Addition of core-work of type IV-iii to cores of types II a and II b; addition of core-work of type IV-iii to core-work of type IV i (altered to IV ii).

6. THE RELATIVE POSITIONS OF THE BLOCKS OF CORES AND OF THE INDIVIDUAL CORES 66

a. The Four Nucleus Cemeteries of the Western Field 66

Cem. G 4000: on the best site, the primary site of the Western Field; uniform plan established by first five mastabas; layout of the cemetery; growth of this nucleus cemetery from west to east and from north to south.

Cem. G 2100: on less desirable site; not alined with Cem. G 4000; in two groups: western group of five mastabas, a family group, forms the nucleus of the cemetery, all five with portculis-grooves in shafts; eastern group of six cores on a unified plan alined with the two large cores of the second line of the western group; order of the use of the mastabas.

Cem. G 1200: position far to the west; site second in desirability; types of core-work and prevalence of slab-stelae indicate that Cem. G 1200 was founded about the same time as Cem. G 4000; layout of the cemetery and order of the construction of the separate cores.

The great mastaba G 2000: isolated and not in alignment with the three older nucleus cemeteries; later than any of the three.	
Cem. en Échelon: built later than G 4000 and G 2100 and repeating the accidental irregularities of the eastern part of those two cemeteries; layout of the cemetery; introduction of the échelon principle; built on a unified plan <i>ab origine</i> .	
b. The Nucleus Cemetery of the Eastern Field	70
The unfinished pyramid east of pyramid G I-a.	
The burial of Queen Hetep-heres, mother of Cheops, in the secret tomb.	
The construction of the two northern pyramids of queens, G I-a and G I-b, after the final plan of the First Pyramid had been made and partly executed.	
The construction of the original nucleus cemetery of twelve massive cores of type IV i in three rows and four lines.	
The conversion of the northern and middle rows of the original nucleus cemetery into abnormally long cores and their casing as four twin-mastabas with interior chapels.	
The conversion of the southern row of original cores into long cores for the four southern twin-mastabas by the addition on the south of each of a massive core of type IV iii.	
The casing of the western mastaba of the four southern twin long cores into a modified twin-mastaba (the mastaba of Khufuw-khaf); the beginning of the white casing of the second long core into a mastaba, actually cased with c.b.; the third mastaba used uncased and the fourth (Min-khaf) cased later.	
The second form of the nucleus cemetery of the Eastern Field consisting of eight twin-mastabas.	
Enlargement of the cemetery of twin-mastabas by the construction of five massive cores.	
Continuation southwards of the line of three small pyramids by the construction of the queen's mastaba G 7050.	
Further continuation of the lines of the nucleus cemetery by the addition of eight mastabas of type VI a.	
c. Cemetery G I S	74
7. THE CHRONOLOGICAL ORDER OF THE NUCLEUS CEMETERIES	74
Nucleus cemeteries, the basis of the chronological order of the finished mastabas.	
a. The Initial Mastabas of each Nucleus Cemetery and the Origin of the Unified Plan	75
First cemetery laid out on unified plan, <i>ab initio</i> ; the twelve old cores of the Cem. G 7000.	
The échelon arrangement first introduced in mastabas added to Cem. G 7000 in the reign of Chephren; used <i>ab initio</i> in the Western Field in the 'Cem. en Échelon', the latest of the nucleus cemeteries in the Western Field.	
The Cems. G 1200, G 2100, and G 4000 began with a small block of cores the lines of which were prolonged to form the unified plans of those cemeteries:	
(a) Cem. G. 4000: five initial cores, one of abnormal size and four of normal size; lines of the block of four normal mastabas prolonged by thirty-seven normal cores of different core types.	
(b) Cem. G 2100: five initial cores laid out in two N-S lines; unified plan introduced by the six mastabas of the second (eastern) group, aligned in the E-W direction with the southern and middle mastabas of the second row of initial mastabas.	
(c) Cem. G 1200: initial group of five cores, one of abnormal size and four of normal size placed in a rectangle as in Cem. G 4000; lines of initial block of four normal mastabas, prolonged by five other normal mastabas.	
b. The Evidence of the Types of Cores	76
Order of the introduction of core-types II a and II b, type III-i and type IV-i.	
The fifteen initial mastabas, all of type II a or b; followed in Cem. G 1200 and G 2100 by cores of type II a; followed in Cem. G 4000 by cores of type III-i and IV-i.	
Cores of type IV-i intended to be faced as type III-i or cased with white limestone.	
Enlargement of five of the initial cores with corework of type IV-iii added to core-types II a or b.	
The later type of the mastaba G 2000.	
c. The Relative Positions of the Three Early Nucleus Cemeteries in the Western Field	77
The three early nucleus cemeteries of the Western Field present in their initial cores three family cemeteries representing three groups of the family of Cheops.	
The relative excellence of the sites and the comparative expensiveness of the initial mastabas of each cemetery; the size and importance of the three family groups.	
All fifteen initial cores built about the same time, early in the reign of Cheops.	

d. The Growth of the Nucleus Cemeteries in the Western Field	78
Cem. G 1200, continued by five cores of the same type as the initial cores; continued the lines and rows established by the initial cores.	
Cem. G 2100, increased by a block of six mastabas built on a unified plan and linked with the initial cores by alinement with the two most important of the initial cores; cores of type II a as four of the five initial mastabas.	
Cem. G 4000, continued by thirty-seven cores of new types, originally all of type IV-i but with two altered to type III-i; all intended to be faced or cased with masonry of another kind of stone; the first addition of eight cores; second addition of nine cores; a total of twenty-two cores which date certainly to the reign of Cheops.	
The final addition of twenty cores, rows 3, 2, and 1 and line 8.	
Total of sixty-three cores in the Western Field constructed by the public works department of Cheops.	
e. The Three Remaining Nucleus Cemeteries and the Isolated Mastaba G 2000	80
(1) <i>The Nucleus Cores of Cemetery G 7000</i>	80
The twelve original cores of Cem. G 7000; cemetery laid out and built after the first twenty-two cores of Cem. G 4000; introduce a normal size of about double the older normal size; position and size prove these cores intended for the most important members of Cheops family; Eastern Field the site for the important members of the royal family.	
Designed to be cased with exterior chapels of white limestone; alteration of the plan to provide eight twin-mastabas with white casing and two interior chapels.	
Addition of five massive cores to the nucleus cemetery made in the reign of Chephren.	
Later addition of eight mastabas of type VI a, continuing the lines of the nucleus cemetery.	
(2) <i>Mastaba G 2000 in the Western Field</i>	81
By position and lack of alinement constructed after the founding of the three early cemeteries of the Western Field; evidence of date given by the core-type III-ii; constructed after the first twenty-two cores of Cem. G 4000 and after the twelve original cores of the Eastern Field; probably a man of blood royal.	
(3) <i>The Cem. en Échelon in the Western Field</i>	81
Built after the Cems. G 4000 and G 2100; laid out on a unified plan; the échelon arrangement leaves the chapel of each mastaba with an open eastern outlook; échelon arrangement in the first addition to the eight twin-mastabas of the Eastern Field; evidences of the date of the Cem. en Échelon, between the middle of the reign of Chephren and the middle of the reign of Mycerinus.	
(4) <i>The Cores in Cemetery G I S</i>	82
Built in alinement but in two groups; eastern group apparently attached to the Eastern Field and the western group apparently attached to the Western Field.	
Evidences of date: late in the reign of Chephren or early in the reign of Mycerinus: but later than the Cem. en Échelon.	
f. The Chronological Order of the Blocks of Cores	83
Chronological table showing the order of construction of the cores of the nucleus cemeteries.	

VI. THE BURIAL-SHAFTS OF THE FINISHED MASTABAS OF THE NUCLEUS CEMETERIES 85-176

Definition of the term 'finished mastaba'.

1. TYPES OF SHAFTS AND BURIAL CHAMBERS	85
a. The Classification of the Burial-shafts at Giza	86

Characteristics of the early Giza shafts descended from older forms; N-S orientation and proportions of mastaba; position of the chamber on the south of shaft; the lining of the chamber with fine limestone.

Types 1-9, covering the whole period of the Giza Necropolis; position of the chambers in these nine types. Variation *a*, chamber parallel to the adjoining side of the shaft; when the chamber is north or south of the shaft, its long axis is E-W; when the chamber is east or west of the shaft, its long axis is N-S.

Variation *b*, chamber with long axis at right angles to the adjoining side of the shaft; when the chamber is north or south of the shaft, its long axis is N-S; when the chamber is east or west of the shaft, its long axis is E-W.

These variations have the same meaning in types 1-6 and 8.

Variations *c-d* not common to the types 1-6 and 8.

Shaft types 1-9 introduced in this chronological order.

(1) <i>The Variations of Shaft Type 1</i>	92
<i>a</i> : E-W chamber on the south of the shaft. <i>b</i> : N-S chamber on south of shaft. <i>c</i> : square or practically square chamber on the south. Variations describing the connecting passage: <i>r</i> : opening at roof-level. <i>m</i> : opening in or near middle of north wall of chamber. <i>l</i> : opening low down in north wall of chamber. <i>f</i> : opening at floor-level of chamber. <i>x</i> : sloping passage.	
(2) <i>Variations of Shaft Type 2</i>	93
Shaft Type 2, like 1, but with Ramp or Stair descending from Floor of Passage to Floor of Chamber; some Chambers unlined or with Lining only partially constructed. Variations <i>a, b, c</i> , as type 1. Variations <i>r</i> and <i>m</i> as type 1; use of ramp or stair excludes variations <i>l</i> or <i>f</i> . Variation <i>x</i> as type 1.	
(3) <i>Variations of Shaft Type 3</i>	94
Like Type 1, but not lined. Variations <i>a, b, c, r, m, l, f</i> , and <i>x</i> as type 1.	
(4) <i>Variations of Shaft Type 4</i>	94
Degeneration of Type 3, with passage practically same height as chamber; passage shorter but over 0.5 m. long; chamber on south, north, east, or west of shaft. Variations <i>a</i> and <i>b</i> as type 1-3. Other variations dependent on the form of the doorway and its position with reference to the burial-chamber: (1) with false door-jamb as type 1 (<i>a</i>); (2) doorway same width as shaft; no door-jamb; (3) without door-jambs, opening in or near middle of chamber; (4) with two false door-jambs; opening near end of chamber; (5) with two door-jambs; opening in or near middle of chamber.	
(5) <i>Variations of Shaft Type 5</i>	94
Type 5, a degeneration of type 4; with a connecting passage or door-jambs less than 0.5 m. in length; chamber on south, north, east, or west. Variations <i>a</i> and <i>b</i> , as types 1-4. Variations <i>c</i> : like type 5 <i>a</i> but with floor area of chamber less than 2.0 sq. m. Variation <i>d</i> : small chamber about same size as shaft. Variations (1) to (5) as in type 4.	
(6) <i>The Variations of Shaft Type 6</i>	95
Type 6 without connecting passage or door-jambs; shaft opening directly into chamber became predominant in the smaller tombs of Dyn. V-VI; chambers on south, north, east, or west. Variations <i>a</i> and <i>b</i> : relations of chamber to shaft as in types 1-5. Variation 6 <i>a</i> (2) with doorway near end of chamber. Variation 6 <i>a</i> (3) with doorway at or near middle of chamber. Variation 6 <i>b</i> (1) chamber with parallel sides. Variation 6 <i>b</i> (2) with 'fan-shaped' chamber. Variation 6 <i>c</i> with recess chamber, small, nearly square: (1) with parallel sides; (2) 'fan-shaped'; (3) irregular form. Variation type 6 <i>d</i> : recess chamber less than 0.4 m. deep, with body partly in shaft protected by construction in shaft.	
(7) <i>Variations of Shaft Type 7</i>	97
Type 7 open shaft with or without burial-chamber constructed in bottom of shaft; variations as follows: Variation <i>a</i> with built or sunk chamber in middle of shaft. Variation <i>b</i> built or sunk chamber on east or west side of shaft. Variations (1) to (5), designate the type of roofing. Variation <i>c</i> : with burial in open shaft covered with filling. Variation <i>e</i> : smaller shaft and chamber built in open shaft. Variation <i>x</i> : shaft without chamber with evidence of burial removed by plundering. Frequent in secondary shafts of Dyn. V and even in chief shafts of Dyn. VI.	

(8) <i>The Variations of Shaft Type 8</i>	98
Type 8 with built shaft and chamber in filling of mastaba or intruded in streets and chapels of old mastabas:	
Variations <i>a</i> and <i>b</i> and (1)-(5) as type 5.	
Variation 8 c: imitation of type 6 c (1) and (2).	
Variation 8 d: like 6 d.	
Variation 8 e: like 6 c; sunk in rock and roofed with slabs.	
Variation 8 f: abnormal variation of type 8 b.	
Predominating type of the intrusive shafts made after the sanding-up of the cemeteries.	
(9) <i>Variations of Shaft Type 9</i>	101
Type 9, large N-S chamber cut in the rock approached by sloping passage from north or east; the variations are:	
Variation 9 a: with sloping passage from east.	
Variation b: with sloping passage from north or south.	
Variation (1) with plain rock-cut passage.	
Variation (2) with built passage in rock-cut passage.	
Used in large mastabas of Dyn. V-VI as an improvement of the vertical shaft types of that period.	
(10) <i>Summary of the Square Shafts with Rock-cut Chambers: Types 1-6</i>	101
All large tombs at Giza of types 1-6 except for the later burial places of type 9.	
Types 2-6 descended from the lined chamber of type 1.	
Chronological order of the introduction of types 1-6.	
Decrease of size and cost of burial-shafts during Dyn. V-VI.	
Manner of excavation of rock shafts and chambers; tools used; advantage of excavation with downward blows of chisel and hammer; devices for excavating chambers with downward strokes.	
b. <i>The Occurrence of Stone-lined Chambers at Giza</i>	103
Lined chambers in the Western Field; thirty-one lined chambers of types 1 and 2; include all the earlier mastabas of the Western Field; no other lined chambers in this field.	
In the Eastern Field only three lined chambers, G 7130 B, G 7430 B, and G 7510.	
Lined chambers in the pyramids of queens at Giza.	
Sporadic examples of lined chambers at other sites in Dyn. V-VI; lined chambers of pyramids of kings in Dyn. V-VI.	
Construction of the lined chambers of type 1 and 2 at Giza.	
c. <i>Distribution of the Shaft Types in the Nucleus Cemeteries</i>	106
(1) <i>The Shafts in the Fifteen Initial Mastabas of the Nucleus Cemeteries</i>	106
Total number of shafts of type 1 among the fifteen initial mastabas is fourteen shafts; one unlined chamber of type 4.	
(2) <i>The Distribution of Shaft Types in Cem. G 4000</i>	107
The importance of Cem. G 4000.	
(a) The five initial mastabas all with shafts of type 1; table showing core-type, slab-stela, shaft type, area, capacity.	
(b) The eight succeeding mastabas of rows 5-6 in lines 3-6; seven of type 1 and one of type 3; table as above.	
(c) The following nine mastabas of row 4, lines 1-7 and rows 5-6 of line 7; all of type 2; table as above.	
(d) The nine mastabas of row 3 and line 8; types 3-6; table as above.	
(e) The six mastabas of row 2; types 5 and 6; table as above.	
(f) The five mastabas in row 1; types 4 and 6; table as above.	
The distribution of shaft types in the cemetery; the chronological order of the types and the use of the shafts from the reign of Cheops to Dyn. V.	
Summary	111
(3) <i>The Distribution of the Shaft Types in Cem. G 2100</i>	111
(a) The chambers in the five initial cores: four of type 1 and one of type 4; table as above.	
(b) The following six cores:	
Six cores laid out on unified plan: one shaft of type 1, one of type 3, three of type 4 and one of type 6; table showing core type, slab-stela, shaft type, area and capacity of burial chamber.	
Lined chambers in order of size.	
The six plain rock-cut chambers in order of size.	
Chronological order of the shafts; parallel to series in Cem. G 4000, but of shorter duration.	

	PAGE
(4) <i>The Distribution of the Shaft Types in Cem. G 1200</i>	113
Homogeneous group of ten mastabas constructed continuously beginning in the reign of Cheops; all ten shafts of type 1; eight of the ten in mastabas with slab-stelae.	
Chronological order of the shafts; table as above.	
Table showing the shafts in order of their cubic capacities.	
Shaft types in the annexes; two of type 3, one of type 5, and one of type 6.	
(5) <i>Shaft Type of the Isolated Mastaba, G 2000</i>	114
Extraordinarily large size of rock-cut chamber of type 2, with lining designed but not built.	
(6) <i>The Distribution of the Shaft Types in Cem. G 7000</i>	115
(a) The four northern twin-mastabas set out in table form showing type, area, and capacity.	
(b-d) The four southern twin-mastabas set out in table form showing type, area, and capacity.	
(c) The succeeding six mastabas built around the eight twin-mastabas set out in table form showing type, area, and capacity.	
(f) The eight following nummulitic mastabas of type VI a, set forth in table form showing type, area, and capacity.	
(g) Mastabas in lines 5 and 6 south of G 7550 and G 7660. Table as above.	
Summary of the occurrence of the type forms.	
List of chambers arranged in order of cubic capacity. Total of forty-four shafts ranging in date from the last years of Cheops to the end of the reign of Chephren with a few from the reigns of Mycerinus and Shepseskaf.	
Name and rank of persons concerned.	
Number of examples of the different types compared with the numbers of the same types in the Western Field: prevalence of type 1 in the Western Field and the prevalence of type 3 in the Eastern Field.	
Introduction of type 3 at the end of the reign of Cheops, a fortuitous development from type 1.	
Type 4 introduced in the reign of Chephren.	
Large size of the chambers of type 3 in the Eastern Field; introduction and distribution of two-room apartments in the chambers of the Eastern Field; rank of the persons with two-room apartments; last of the lined chambers.	
2. COMPARISON OF THE SIZES OF THE BURIAL-CHAMBERS IN MASTABAS AND PYRAMIDS	121
a. The Normal Size of Chambers of Type 1	121
Mean of nineteen chambers, 10.23 sq. m. and 26.79 cu. m.; chambers carried out by the public works department of the king; variations, smaller and larger than the normal size, within the range of possible influence; two abnormally large chambers made for princes with mastabas larger than those of normal size.	
b. Use of the Normal Size in Chambers of Type 2	123
Lined chambers of type 2 follow the old normal size of chambers of type 1 and the unlined chambers which were designed for linings would have been of the same size; variations of size in type 2 as in type 1; unfinished linings connected with the unfinished condition of the mastaba casings.	
The enormous size of the chamber of type 2 in G 2000 corresponds to the size of the mastaba.	
Two lined chambers in the Eastern Field, one of type 2 and corresponding in size to the larger variation in the normal mastabas of the Western Field, and the other of type 4 and about the same size but unfinished.	
c. The Sizes of Chambers of Type 3	125
Early chambers of type 3 in the Eastern Field, designed as lined chambers of type 1; the sizes of these chambers to be compared with the rock-cut sizes of the lined chambers of the Western Field; the four northern twin-mastabas in order of size.	
The burial-chambers of the four southern twin-mastabas; alterations in Ptolemaic period; decrease in sizes of chambers. Chambers in the six massive cores which form the first addition to Cem. G 7000; two-shaft mastabas; types of secondary shafts.	
Burial-chambers in the eight nummulitic mastabas forming the second addition to Cem. G 7000; chambers of type 4 and 6.	
d. Conclusions drawn from the Comparison of the Sizes of Mastaba Chambers	128
Normal size of mastaba and burial-chamber made by the working gangs of Cheops; variations and their causes; type 2 follows type 1 in size.	
Later chambers made by owners and vary greatly in size; no normal size used after the introduction of type 3.	
e. The Burial-chambers in the Pyramids of Queens at Giza	129
List of the chambers of the seven small pyramids showing their forms and sizes.	
Made by the public works departments of the kings; three by Cheops, one by Chephren, and three by Mycerinus (last two perhaps finished by Shepseskaf).	

Method of constructing these small pyramids: superstructure and substructure made simultaneously in one continuous operation and finished about the same time.

The three chambers in the small pyramids of Cheops; burial-chamber and ante-room; use of the normal mastaba size in the first and in the floor area of the third; normal variation in second; rock-cut chambers corresponding in size with the chambers of the four north twin-mastabas; these three pyramid chambers form a connexion between the chambers of types 1 and 2 of the Western Field and the chambers of type 3 of the Eastern Field.

Use of ante-rooms as turning-rooms for sarcophagi; use of ramp in turning-room of G 1 a; mastaba chambers of type 2 derived from the ramp-room of G 1 a; date of G 1 a and mastaba chambers of type 2.

Form of the chamber of the small pyramid south of the Second Pyramid; follows the form of the substructure of the Pyramid of Radeuf; size and lack of lining.

The two last pyramids, G III b and c; change from E-W to N-S burial-chamber, following the substructure of the Third Pyramid in its final form; reversion to the form with ante-room but modified; sizes and lining; probably finished by Shepseskaf.

f. The Sizes of the Burial-chambers of Kings of Dyn. IV

136

Descriptive list of the burial apartments of the pyramids of Sneferuw, Cheops, Radeuf, Chephren, Mycerinus, and Shepseskaf; Nos. 1-10.

Use of corbel and pent roof; capacity of rooms (so roofed) taken from floor to bottom of roofing for comparison with flat-roofed chambers; comparison of the sizes of the burial-chamber and the great hall (if any), excluding the galleries, ante-rooms, portcullis rooms, and rock-cut magazines.

Pyramids the plans of which had been increased; these have received burial apartments for each new plan, three in pyramid of Cheops, two each in the pyramids of Chephren and Mycerinus; increase in size of burial apartment with each increase in size of pyramid.

Comparison of the areas and capacities of the burial apartments of kings of Dyn. IV.

E-W orientation of the burial-chamber except in the Pyramid of Mycerinus in which the N-S sarcophagus chamber was the final addition to an E-W apartment; adoption of N-S burial-chamber in the last two pyramids of queens at Giza but not by Shepseskaf.

Use of two-room apartments; previous to Cheops and in Dyn. IV by descendants of Cheops; an old feature which reappears by the arbitrary choice of owners.

3. SUMMARY OF SHAFT TYPES IN THE FIRST FOUR NUCLEUS CEMETERIES

139

Table showing the chambers of types 1-7 x in the four cemeteries, Cem. G 4000, G 2100, the isolated mastaba G 2000, Cem. G 1200 and Cem. G 7000.

Totals of above tables for Western and Eastern Fields.

Summary table showing the sizes of chambers of different types (1-6), with total for both fields.

4. DISTRIBUTION OF SHAFT TYPES IN THE CEM. EN ÉCHELON

142

Discussions based on sixteen of the twenty-five mastabas.

Descriptive list of the shafts in numerical order, giving mastaba number with letter of shaft, the core type, shaft type, area and capacity of chamber.

List of chambers of types 3-7 x; thirty-three shafts in sixteen mastabas.

Table of chambers arranged in order of the cubic capacity.

Range of the sizes of the chambers in type groups; maximum capacity of 45.1 cu. m.; ranging down to less than 1 cu. m.

Table of the chief shafts, showing numbers of chambers of each type grouped according to capacity.

Similar table of secondary shafts.

The significance of the chief shafts for dating the cemetery.

5. DISTRIBUTION OF SHAFT TYPES IN LARGE OUTLYING MASTABAS IN THE WESTERN FIELD

145

The burial-chambers of four large mastabas important for the history of the shaft types: G 2220, G 5110, G 5230, and G 5210.

6. DISTRIBUTION OF SHAFT TYPES IN CEM. G 1 S

146

7. CHRONOLOGICAL ORDER OF THE SHAFT TYPES

147

Summary of the evidence yielded by the distribution of the shaft types in the nucleus cemeteries.

Type 1 introduced by Cheops and used only in his reign.

Type 2 introduced and used for a period including the last few years of Cheops and the early years of Chephren.

Type 3 introduced fortuitously at the end of the reign of Cheops as a substitute for type 1 and ranging to the end of Dyn. IV or a little later.

	PAGE
Type 4, degeneration of type 3, introduced in the reign of Chephren and ranging down to the early part of Dyn. V; for large chambers.	
Type 5, degeneration of types 3 and 4, appears about the end of the reign of Chephren and ranges to the end of Dyn. VI.	
Type 6, simple form, ranges from the reign of Chephren to the end of Dyn. VI.	
Effect of the overlapping of the ranges of the later types.	
Types 2-6 developed from type 1; present a continual cheapening from type 1 to type 6, corresponding to the lapse of time in the use of the Necropolis; amount to a rough chronological scale.	
The Giza Necropolis in Dyn. V-VI.	
8. BURIAL-PLACES OF TYPE 9	150
Sloping passage tombs in large mastabas of Dyn. V-VI; relation to sloping passage tombs of Medum.	
Early examples of Dyn. IV: G 7120 A.	
Examples of type 9 in the Chephren Quarry Cemetery of the reign of Mycerinus and later; examples 3-7.	
The tomb of Khuwnera in the Mycerinus Quarry; No. 8.	
Sloping-passage tombs in the secondary mastabas of Cem. G 7000; Nos. 9-11.	
The sloping passage added to the burial-place of Prince Ka-wab (G 7120 A).	
Examples of type 9, rare in Dyn. IV; a few examples in the Quarry Cemeteries; shaft and sloping passage connected with older shaft types.	
Type 9 in the Senezem-ib complex; dated from the first year of Unis to the middle of the reign of Pepy II.	
List of shafts of type 9, Nos. 1-35.	
9. MINOR FEATURES OF THE SHAFT TYPES	155
a. Canopic Pits and Recesses for containing the Canopic packages	155
Removal of viscera result of mummification; the alabaster canopic chest of Queen Hetep-heres I; primitive mummification in Dyn. I; introduced for royal persons and spread downwards through the different classes of the population; uncertain date of the introduction of full mummification and separate wrapping of the limbs; use of canopic receptacles indicates the use of full mummification; use of mummification for Zoser and members of his family; use of mummification in Dyn. IV shown by the long coffins and the canopic receptacles. Canopic pits in the SE corner of the burial-chamber and canopic recesses in the south wall, definitely developed in large tombs of Sneferuw at Medum.	
Types of canopic receptacles at Giza:	
(a) Canopic pit roofed with slab in SE corner.	
(b) Canopic recess in south wall of chamber, near the SE or SW corner, closed by vertical slab.	
(c) Pit or recess built of stone and closed with slab, 'built canopic chest'.	
(d) Canopic chest of stone or wood.	
Examples of canopic pits in the SE corner:	
(a) In twelve of the fifteen initial cores.	
(b) In the succeeding twenty-three chambers of types 1 and 2.	
(c) The five finished twin-mastabas in the Eastern Field; two examples in ten chambers.	
(d) Mastabas finished in succession to the twin-mastabas in the Eastern Field; two shafts, G 7430 A and G 7650 C.	
(e) Finished mastabas of the reigns of Mycerinus, Shepseskaf, and early Dyn. V.	
Canopic recesses and their distribution.	
Appear first in the twin mastabas of the Eastern Field.	
Other chambers with canopic recess.	
'Built canopic chest'; examples.	
Limestone canopic jars in G 7530 A, early in the reign of Shepseskaf; other examples in G I S, No. 7 B, and No. 2 B; many examples in burial-chambers of Dyn. V, usually with no trace of contents.	
Canopic chests of stone and wood; evidence at Giza.	
SUMMARY TABLE: distribution of the canopic receptacles at Giza: showing numbers of shafts, pits, recesses, and built chambers for the various groups of mastabas	160
Chronological order of the use of canopic receptacles.	
SUMMARY TABLE: showing the distribution of canopic receptacles in the various types of shafts	161
Resumé of occurrence of canopic receptacles.	
b. Coffin-pits	162
The open pit in the floor of the burial-chamber, the coffin-pit and the roofed pit, the burial pit.	
The coffin-pit; used to prevent the overturning of the coffin by thieves to remove the lid.	
List of coffin-pits in the six nucleus cemeteries; coffin-pit not in general use but found in large tombs from the end of the reign of Cheops to Dyn. V and sporadically thereafter; use of both stone and wooden coffins.	

The roofed pit, or built pit, in general use in secondary mastabas of Dyn. V-VI.
Coffin recess as substitute for separate burial-chamber.

- c. The 'Window' between Shaft and Chamber 163
Five examples in the six nucleus cemeteries; Nos. 1-5.
Used to facilitate the cutting of the chamber in the rock.

- d. The Turning Recess in the North Wall of the Shaft 164
Device for turning large stone coffins from a vertical to a horizontal position to permit introduction into the burial-chamber; other devices for same purposes.
Manner of lowering heavy stone coffins and turning; lid and box handled separately.
Method of moving coffin from passage to its place along the west wall of the chamber.
Removal and lifting of the stone coffins by our expedition; length of time required.
Evidence of the use of stone balls in the original introduction G 7000 X, G I S No. 1 (Junker).
List of shafts with turning recess; Nos. 1-13; ten shafts contained granite sarcophagi and one a limestone sarcophagus.
Occurrence of shafts without turning recesses which contained coffins; turning recess not necessary.

- e. The Blocking of the Doorways of the Burial-chambers 168
Blocking designed to prevent plundering.

- (1) *Masonry Blocking and Portcullis Slab: Blocking Type I* 168

Use of portcullis with interior c.b. blocking, type I a; portcullis grooves previous to Dyn. IV.
In the early stone mastabas at Giza, the passage began to be blocked with masonry set in plaster with portcullis slab outside the blocking, type I b; used in shafts of types 1-6; variation in inner blocking; portcullis slabs with portcullis grooves and slabs with rope holes for lowering.
List of shafts with portcullis grooves; all in one block, the five initial cores of Cem. G 2100.
The portcullis required the use of large and unwieldy slabs; when the grooves were omitted a small slab was used; list of smaller portcullis slabs and their measurements; Nos. 6-17, with notes on sizes and rope holes.
Distribution of blockings of type I b.
Use of interior blocking of c.b. at Giza, type I a; list of five examples; from the reign of Chephren to early Dyn. V.
Causes of disuse of portcullis slabs in Dyn. V; introduction of pyramid blocking of plug-stones in shaft type 9.

- (2) *Blockings Developed from Type I; Blockings Types II-VI* 171

Blockings designed to protect burial-chambers from intrusion of shaft filling and rainwater; no type prevented plundering.
Blocking type II; interior blocking as in type I without portcullis slab; variations.
Blocking type III; thin interior blocking wall; variations.
The types I-II adapted to tombs with long passages; type III to those with short passages (shaft types 4 and 5); exterior blockings adapted to shaft type 6 but also used for type 5.
Blocking type IV; exterior vertical wall; variations.
Blocking type V; exterior leaning wall resting on shaft side above doorway; variations.
Blocking type VI; exterior wedge-shaped blocking; variations.
Comparison of the frequency of blocking types in Cem. G 1000-1600 and G 3000.

- f. The Filling of the Shaft after Burial 175

Plundering of chambers and removal of white limestone from the lined chambers; filling of all large shafts more or less disturbed; original filling found generally in the bottom of shaft especially when the chamber had been plundered but not stripped of stone lining.
Remains of filling show that original filling consisted of clean limestone debris resulting from excavation of shaft and chamber; found hard packed by time and superincumbent weight; evidence from the debris thrown out at time of first plundering; refilling of plundered shafts by thieves or by drift-sand; re-use of chambers as communal burial-places in Ptolemaic-Roman times.
The filling with masonry and plaster of the shaft of the secret tomb of Hetep-heres I (G 7000 X).
Few examples of the covering of the mouth of the shaft.

VII. THE FINISHED MASTABAS: CORES, CASINGS AND CHAPELS 177-304

1. DISTINCTION BETWEEN CORES OR FACED CORES AND CASED MASTABAS 177

Cores of type II a and b used either as finished mastabas or as mastaba cores; construction like the c.b. mastabas I a and b but without niches in the retaining wall; offering-place marked by slab-stela fixed in emplacement cut in the retaining wall of the core and exposed in a niche in the west wall of the c.b. chapel.

Cores of types II a and b, used as finished mastabas with exterior c.b. chapels of type 1; eleven out of twenty-six, of which eight had slab-stelae.	
Core type III, a massive core faced with stepped masonry like type II, presented the same outward appearance; two examples; with slab-stela in stepped facing; one used as finished mastaba with c.b. chapel and the other with unfinished white casing and unfinished exterior stone chapel.	
Conclusion that cores of types II a, II b, and III, presenting the same outward appearance, were intended to be used as finished mastabas, but later some of them were cased.	
Problem presented by cores of type IV-i; rough outward appearance; use of slab-stelae and exterior c.b. chapels; conclusion that cores of type IV-i were intended to be faced (converted into type III) or cased with white masonry.	
Alteration of type IV-i to IV-iii by reconstructing with recess for interior chapel; all cores of type IV-iii certainly intended to be cased.	
2. TYPES OF CASINGS	178
a. Classification of Casings	178
Casings of white limestone; x-casing, with blocks laid with the grain horizontal; y-casings with blocks laid with grain sloping; examples of mixed casings, xy.	
Casing of nummulitic blocks set in low vertical faced stepped courses; casing z.	
Casing of large nummulitic blocks set sloping; casing w.	
Small nummulitic blocks set in low courses to form a rough sloping surface; u-masonry or casing.	
A later combination, z-casing and u-casing built of small nummulitic blocks; the courses are sloping and the steps very narrow: zu-casing.	
b. Distribution of Casings x and y	178
White limestone casing appears definitely in the Zoser complex as x-masonry; y-masonry a cheaper form of x-casing.	
List of twenty mastabas faced with finished or unfinished white casing, in the Western Field; three in Cem. G 1200; the isolated mastaba G 2000; four in Cem. G 2100; ten in Cem. G 4000; one in the Cem. en Échelon, and one in an outlying mastaba; forty-three cores.	
List of twelve cores with white casings in the Eastern Field; seven of the eight twin-mastabas; five in the mastabas added to the nucleus cemetery.	
List of five cased cores in the Cem. G I S.	
Percentages of white casings in the various cemeteries of the Giza Necropolis.	
Use of z and w masonry for casing old cores later than the middle of the reign of Chephren (some as late as Dyn. V); introduction of the mastabas of type VI a in the Eastern Field.	
Smooth white casing used during Dyn. IV and V at Giza; within the means of highly placed and wealthy persons down to the end of Dyn. VI.	
c. Summary Table: Distribution of Fine White Casing through the Six Nucleus Cemeteries	182
Table shows numbers of finished and unfinished white casings, the total number of white casings, and the total number of mastabas; arranged in groups: (a) the fifteen initial cores; (b) the twenty-three succeeding mastabas and G 2000; (c) the eight twin-mastabas in Cem. G 7000; (d) mastabas in Cem. G 7000 of the reign of Chephren (one of Silepseskaf); (e) the nine excavated mastabas in Cem. G I S; (f) mastabas in the Western Field unused at the death of Cheops or built thereafter.	
Only white casing used in the reign of Cheops; after the introduction of nummulitic casings and mastabas, white casing continued to be used for persons of unusual means.	
3. CHAPELS OF THE CORES AND FINISHED MASTABAS	183
History of mastaba chapels in Dyn. I-III.	
At Giza the mastaba chapel did not continue the development of the c.b. interior chapels of Saqqarah; all the early chapels at Giza were exterior chapels of c.b. or stone attached to stone cores; the L-shaped chapel introduced as an interior chapel late in the reign of Cheops.	
Differences between the cruciform chapel and the L-shaped chapel of Giza; probably connected with the interior L-shaped chapels of the Zoser complex.	
Functional parts of a chapel; interior and exterior chapels at Giza in Dyn. IV; terms 'interior' and 'exterior' refer only to offering-room; the interior L-shaped chapel usually had exterior rooms of stone or c.b.	
Two kinds of exterior chapel, that covering the whole façade of the mastaba and that covering only a part of the façade, in the place of or covering the chief offering-niche; one-niched and multiple-niched exterior chapels.	
Interior L-shaped chapel with one niche represents a withdrawal of the chief niche within the mastaba; the interior two-niched chapel represents in its west wall the façade of the mastaba; interior corridor chapel of type (5) represents in its west wall the actual façade of the mastaba.	

Range of the mastaba chapels at Giza from Cheops to the end of Dyn. VI; contemporary range of chapels at Saqqarah; two series of chapels developed independently and constructed by two different sets of craftsmen; both cruciform chapel at Saqqarah and L-shaped chapel of Giza in Dyn. IV situated in SE corner of mastaba with north subsidiary niche; difference in the two series.

a. Classification of Giza Chapels of Dyns. IV–VI 184

Exterior chapels:

Type (1): exterior c.b. chapel; with variations a–f.

Type (2): exterior stone chapels; with variations a–b.

Interior chapels:

Type (3): interior L-shaped stone chapels with one niche; with or without exterior rooms; variations a–c.

Type (4): N–S offering-room with two niches in west wall; in SE corner of mastaba with subsidiary north niche; asymmetrical entrance from east; variations a–b.

Type (5): long N–S corridor, extending more than half the length of the mastaba; one or more niches in west wall as mastaba façade; entered at east at one end of east wall or from north or south end of chapel; variations a–c.

Type (6) exterior or interior symmetrical chapel (cruciform) with one or two niches in west wall; variations a–c.

Type (7): interior chapel; single E–W offering-room with false door stela in west wall or a multiple-room chapel based on such an E–W offering-room; variations a–e.

Type (8): roofed exterior chapel, built against the façade of a mastaba, with the nichework of the mastaba appearing in the west wall of the corridor; variations a–g.

Type (9): open-air corridor chapel, rarely with enclosing wall; variations a–d.

Type (10): interior square or nearly square offering-room with one or two niches in west wall; variations a–c.

Type (11): the portico chapel; a wide recess in the façade of the mastaba (over half the length); with roof supported by pillars; variations a–c.

Type (12): complex interior chapels, or partly interior and partly exterior, which cannot be classed under the above type; each built on its own design.

Type (13): abnormal chapels, usually a roofed niche in the place of the chief niche.

b. Chapels of Dyn. IV: Types (1)–(4 a), Rock-cut Chapels of Type (6) 186

Chapels of Dyn. IV considered in the chronological order of the cores: (a) the chapels of the fifteen initial cores of the three nucleus cemeteries of the Western Field; (b) the chapels of the thirty-seven mastabas following the fifteen initial mastabas of the same cemeteries; (c) the chapels of the eight twin-mastabas of Cem. G 7000 in the Eastern Field; (d) the massive core-mastabas added to the eight twin-mastabas of the Eastern Field; (e) the chapels of the eight nummulitic mastabas of type VI a and two others; (f) a number of mastabas of the Western Field, which are built around or attached to nucleus mastabas or for other reasons are to be dated to Dyn. IV; (g) the ten mastabas of G I S, excavated by Junker; (h) a certain number of rock-cut tombs in the quarry cemeteries.

These tombs present mastaba chapels of types (1)–(4 a), rock-cut chapels of type RC i, and mastaba chapels of type (6).

(1) *The Exterior Crude-brick Chapel of Type (1)* 187

(a) *Chapels of type (1 a)* 187

Exterior multiple-room c.b. chapel built around a slab-stela fixed in the stepped face of the core; stela visible in a niche in the west wall of offering-room; c.b. leaning course vaults; windows and doors; entered from north, east, or south; alteration and reconstruction of chapels of type (1); chief functional rooms, L-shaped offering-room, magazine or magazines, vestibule room, and open court.

List of examples of chapels of type (1 a); fourteen examples.

(b) *Exterior c.b. chapels of type (1 b), based on slab-stela but secondary to stone chapel of type (2 a)* 191

Two examples of chapel type (2).

(c) *Miscellaneous exterior c.b. chapels related to type (1 a), attached to core-mastabas of the nucleus cemeteries: type (1 c).* 193

List of chapels of type (1 c); nine examples.

(d) *One-room exterior chapels in place of chief offering-niche: type (1 d)* 196

Examples of type (1 d); seven examples.

Total of above chapels, thirty-two; eight cores of the nucleus cemeteries had no chapel preserved.

Comparative table of chapels of types (1 a) to (1 d); showing tomb number, area of offering-room and its proportions, number of rooms, total area of chapel, and slab-stela (if found).

Date of chapels of type (1 a) and (1 b) and the later chapels of type (1 c) and (1 d).

	PAGE
(e) <i>Exterior c.b. chapels attached to stone chapels</i>	199
Exterior c.b. chapels without offering-place, built subsidiary to stone offering-rooms.	
Type (1 e): subsidiary to chapels of type (2).	
Type (1 f): subsidiary to chapels of type (3).	
Type (1 g): subsidiary to chapels of type (4).	
Type (1 h): subsidiary to chapels of type (5).	
List of examples of chapels of the type (1 e) to (1 h).	
Functional character of the rooms; magazine and vestibule, a hall, a statue chamber, and a court.	
(2) <i>Exterior Stone Chapels, Type (2) with One Niche</i>	200
One-niched offering-room with deep compound niche; L-shaped room.	
Examples of chapels of type (2 a) with subsidiary c.b. chapel of type (1 b); two examples.	
Examples of chapels of type (2 b); eight examples.	
(3) <i>The Interior Stone Chapel of Type (3)</i>	203
All the cores of the six nucleus cemeteries built without recess for interior chapel; all the interior chapels found in these cores were built in recesses reconstructed in the core in a hole broken in the core, or in an addition to the south end of the core.	
Interior chapels of white limestone in mastabas cased with white limestone and in some cores rebuilt as mastabas of type VI a; usually interior chapels in nummulitic mastabas were also of nummulitic limestone.	
List of four interior chapels of type (3 a) in corework added to cores of type II; Nos. 1-5.	
List of chapels built in recesses reconstructed in old cores or in holes broken in the cores; eight examples, Nos. 6-13.	
Other examples of chapels of type (3) built in holes broken in old cores.	
Cores with chapel recess constructed <i>ab origine</i> , later than the above examples.	
List of early cores with chapel recess and chapel of type (3); eight examples, Nos. 14-21.	
List of three chapels in G I S, all in holes broken in the core; Nos. 22-4.	
Two examples of later chapels of type (3) broken in old cores, in the Western Field; Nos. 25-6.	
List of nummulitic mastabas with chapels of type (3); twelve examples, Nos. 27-38.	
Sub-types of chapels of type (3); type (3 a) with one compound niche at one end of the west wall; type (3 b) with niche in middle of west wall usually included in palace façade panelling; examples of type (3 b).	
Transition from one-niche to two-niche chapels; dated to end of Dyn. IV; isolated examples of two-niched chapel in reigns of Cheops and Chephren; one-niched and two-niched chapels in the rock-cut tombs of the reign of Mycerinus.	
(4) <i>Early Two-niched Chapels and Chapels of Type (4 a)</i>	211
(a) <i>Early chapels</i>	211
Five two-niched chapels previous to Mycerinus; Pyramid chapel, G I-b, one corridor chapel (G 4000), and three chapels of type (4 a), G 2000, G 7510, and G 7650.	
(b) <i>Two-niched chapels of type (4 a)</i>	214
Later than the first five two-niched chapels are eleven of type (4 a) which enclose old cores of the nucleus cemeteries of the Western Field; dated to the period from the end of Mycerinus to the end of Neferirkara; list of chapels of type (4 a), Nos. 6-17; owners and their rank.	
Outlying mastabas with chapels of type (4 a); Nos. 18-25.	
Later chapels of type (4 a); Nos. 26-8.	
Two chapels without niche in west wall; Nos. 29-30.	
(c) <i>Other two-niched chapels</i>	218
G 5110 of type (6 b); two-niched chapels of type (5), (8), and (9) based on the two-niched mastaba.	
Degeneration of type (4 a) in (4 b).	
(5) <i>Rock-cut Chapels at Giza</i>	219
Rock-cut tombs of the family of Chephren began in the reign of Mycerinus; covered the period of the transition from the chapels of type (3) to those of type (4); continued to end of Dyn. VI.	
Rock-cut tombs of members of the royal family affected the subsequent development of the mastaba chapel.	
Correspondence of the parts of the rock-cut tomb with those of the built mastaba.	
Topography of the Chephren Quarry Cemetery; rock-cut tombs; mastabas partly built and partly rock-cut and built mastabas.	
The rock-cut tombs first introduced at Giza by the application of the trained craftsmen to the opportunity presented by the great open quarry.	
Each of the early rock-cut tombs was made on an individual design according to the wish and resources of the owner; two chief features used in preliminary separation of the tombs into types; the two-room form	

and the symmetrical or cruciform form; these two types found in degenerate forms and other smaller types introduced later.

Classification of the rock-cut tombs.

Type RC (i): two-room arrangement with N-S hall (room a) and E-W offering-room (room b), with or without pillared alcove or additional rooms; including degenerate examples of the form; sub-types RC (i a) to (i f); with examples 220

Type RC (ii): the rock-cut cruciform chapel, sometimes partly built; doorways and connecting passages lie in the E-W medial axis of the tomb; sub-types RC (ii a) to (ii c); with examples 233

Type RC (iii): N-S offering-room with entrance at one end of east wall; sub-types RC (iii a) to (iii d); with examples 236

Type RC (iv): N-S hall or corridor with entrance from north or south; sub-types RC (iv a) to (iv c); with examples 241

Type RC (v): E-W hall or offering-room entered by doorway or by long passage in east end of north or south wall; sub-types RC (v a) to (v c), with examples 242

Type RC (vi): square or nearly square offering-room (prop. 1/1.2 to 1/0.6); entered from north, south, or east; subtypes RC (vi a) to (vi b), with examples 243

Development of type RC (i) from the L-shaped chapels with exterior stone rooms; increase in size; alterations caused by being excavated in rock and by the necessity of making the burial-chambers in the floor or sides of the chapel.

RC (i) presents greatly increased wall-spaces available for decoration; corresponding expansion of scenes in relief; effect on mastaba chapels; special scenes in relief; special technique used in decorating walls of rock-cut chapels; cost of RC tombs.

Separate origin of chapels of RC (ii), cruciform; based on pyramid chapels as G III-a.

Chapels of types RC (iii) to (vi) originated in mastaba chapels of type (4), (5), and (10) of Dyn. V and VI.

Conclusions as to the origin, date, and effect of the rock-cut chapels.

(6) *Mastaba Chapels of the Cruciform Type, Type (6)* 247

Origin of the special cruciform chapel of Giza; based on cruciform pyramid chapels of Dyn. IV; one-niched and two-niched cruciform chapels; rock-cut chapels of the cruciform type RC (ii); simplified form RC (ii c).

Mastaba chapels formed on type RC (ii c).

The paucity of cruciform chapels at Giza; examples of pyramid chapels of type (6 a), interior two-niched mastaba chapel; one example of type (6 b), interior two-niched mastaba chapel; one example of type (6 c), exterior chapel of cruciform design.

c. *Chapels of Type (4b): Transition from Chapels of Types (3) and (4a) to Chapels of Type (5)* 249

The position of chapels of Dyn. IV in the SE corner of the mastaba and the relation in size to the size of the mastaba; change in position and relation of the chapels of Dyn. V after Neferirkara; the degenerate forms of chapel type (4 a) in chapels of type (4 b) at Giza and Saqqarah.

(1) *Chapels of Type (4 b) in Mastabas on Independent Sites* 251

Mastabas of the descendants of the Seshem-nofer and the Kanofer families situated east of the Cem. en Échelon; other mastabas on independent sites; between Neferirkara and Isesy.

List of seventeen mastabas with chapels of type (4 b).

(2) *Chapels of Type (4 b) in Small Mastabas Secondary to Other Mastabas* 253

Six chapels of doubtful character owing to their position and relation; Nos. 18-23.

(3) *Summary of Chapels of Type (4 b)* 255

Degeneration of chapel type (4) into type (4 b) by the omission of the subsidiary northern niche; influence of chapel type (5) on this degeneration; effect on the form of the most degenerate chapels of type (4 b) caused by the form of the mastaba.

Dependence of the form of the chapel on the size of the mastaba; type (5) in medium and small mastabas.

Types of chapels used in Dyn. V beginning with Weserkaf.

Evidence that in general chapels of type (5) were later than chapels of type (4 a) and (4 b).

Chapels of type (4 b) used until Isesy; earliest dated chapel of type (5) in reign of Weserkaf (G 4631); chapels of type (7) introduced after Neweserra; types of chapels used in last part of Dyn. V and in Dyn. VI.

d. *Chapels of Dyns. V-VI: Types (5), (7)-(13)* 256

(1) *Mastaba Chapels of Type (5)* 256

Development of the two-niched chapels of type (4) by the extension of the west wall to represent a full or nearly full mastaba façade; general omission of the north subsidiary niche; sizes and proportions; variation of type (4 b) at Saqqarah.

	PAGE
Variations of type (5), (5 a) to (5 e).	
Type (5) used with two-shaft and multiple-shaft mastabas; relation between niche-work (<i>ka</i> -doors) and shafts; affected by older chapels, in particular rock-cut chapels of type RC (i c) and (i d); also by contemporary chapels of type (8); size limited by strength of roofing slabs.	
(a) <i>Chapels of type (5 a)</i>	258
One old two-niched corridor chapel, G 4000.	
Examples of later chapels of type (5 a) one or more niches; Nos. 1-29.	
(b) <i>Chapels of type (5 b)</i>	259
Corridor with subsidiary small room on north; Nos. 1 and 2.	
(c) <i>Chapels of type (5 c)</i>	259
With deep recess or alcove containing a stela in west wall at south end of west wall; examples Nos. 1-6.	
(d) <i>Chapels of type (5 d)</i>	260
With alcove at north end of west wall; examples Nos. 1-3.	
(e) <i>Chapels of type (5 e)</i>	260
With alcove on east at south end of corridor; one example.	
(2) For chapels of type (6) see pp. 247-249, above.	
(3) <i>The Interior Mastaba Chapel of Type (7): E-W offering-room</i>	260
Development of the E-W offering-room; the outer offering-rooms of the temples of G I-III; the E-W offering-room in asymmetrical chapels of the pyramids of Dyn. V; E-W offering-rooms in chapel type RC (i); the E-W offering-room appears in mastaba chapels at Giza after the reign of Neweserra.	
Chapels of type (7); common to both Giza and Saqqarah but with different sub-types prevailing in each necropolis; sub-types arranged to cover both series.	
Chapels of type (5), corridor chapels, more frequent at Giza than chapels of type (7); appear earlier.	
Chapels of type (5) present an expansion of the wall-spaces and scenes of the chapels of types (3) and (4); the multiple-room chapels of type (7) present a still greater expansion.	
List of chapels of type (7) at Giza:	
(a) <i>Chapels of type (7 a): with single E-W offering-room; two examples</i>	262
(b) <i>Chapels of type (7 b): two rooms, E-W offering-room and N-S offering-room; ten examples</i>	262
(c) <i>Chapels of type (7 c): two-roomed nucleus like (7 b) with other rooms; four examples</i>	264
(d) <i>Interior mastaba chapels of type (7 d): E-W offering-room with other rooms presenting a modification of type (7 c): five examples from Giza and one from Saqqarah</i>	266
(e) <i>Interior mastaba chapels, type (7 e): complex of rooms based on a cruciform nucleus with E-W offering-room; one example at Giza and one at Saqqarah</i>	271
(4) <i>Exterior Mastaba Chapels of Type (8)</i>	272
Older forms of roofed exterior chapels; chapels around the chief niche and chapels covering whole façade of mastaba.	
In the mastabas of the nucleus cemeteries of the Western Field, roofed exterior chapel around the place of the chief niche, type (1) and (2).	
In the crowded cemeteries around the nucleus cemeteries, the conditions forced the use of the exterior corridor chapel covering the façade of the mastaba (as in Dyn. III); exterior corridor chapels at Giza possibly originated independently of older forms.	
Exterior chapels types (8 f-g) attached to chief niche, derived from old chapels of type (1); exterior corridor chapels of types (8 a-d) connected with interior chapels of type (5).	
Variations of the corridor chapel of type (8) depend on the variations of the niche-work in the mastaba façade covered by the chapel; type (8 a-d).	
The occurrence of east alcove at south end of east wall is marked by an 'x' appended to the type designation.	
Three other variations of the exterior chapel; types (8 e-g).	
List of corridor chapels of types (8) at Giza:	
(a) <i>Chapels of type (8 a) covering the façade of ordinary two-niched mastabas, 22 examples</i>	273
(b) <i>Exterior chapels of type (8 b) with two or more pairs of niches, 15 examples</i>	275
(c) <i>Exterior chapels of type (8 c) with abnormal niche-work, 14 examples</i>	277
(d) <i>Exterior chapels of type (8 d) without niches or with no niches preserved, 6 examples</i>	279
(e) <i>Exterior chapels covering the façade of the mastaba: type (8 e), 2 examples</i>	280
(f) <i>Exterior multiple-room chapel around chief niche of two-niched mastaba: type (8 f). See type (1 c), 2 examples</i>	281
(g) <i>Exterior one-room chapel around chief niche: type (8 g). See type (1 d), 3 examples</i>	282

(5) <i>Exterior Open-air Chapels of Type (9)</i>	283
Open-air chapels of Dyn. I-III; type (9) presents variations depending on the niche-work of the mastaba façade, like type (8 a-d).	
Numbers of examples of type (9 a-d) in Cem. G 1000-1600.	
(6) <i>Interior Chapels of Type (10)</i>	284
Square or nearly square room, sometimes approached by a long N-S corridor; roof often supported by a pillar or pillars; one or two niches in west wall; same form presented by chapels of type RC (v) and (vi); relation to chapel type (5 c) and (5 d).	
Type (10 a), square or nearly square room with one or two pillars supporting roof; with one or two niches in west wall; entered by doorway from outside; two examples.	
Type (10 b), like type (10 a), but entered from end of a corridor; examples at Saqqarah.	
Type (10 c), recess room opening on corridor and separated from it by pillar or pillars and pilasters; two examples.	
(7) <i>The Portico Chapel of Type (11)</i>	285
Pillared portico built in wide shallow recess in façade of mastaba, open to the east, without other rooms; date and origin.	
Variations of type (11), (a) with open court; (b) opening on a roofed corridor; (c) opening on a street.	
Examples of type (11); three of type (11 a); two of type (11 b); two of type (11 c).	
(8) <i>Complex Chapels of Type (12)</i>	288
Complex chapels of Dyns. V-VI; present maximum expansion of wall surfaces available for decoration.	
Complex chapels of Dyn. V and VI which occupied the greater part of the mastaba; shafts crowded in the part of the mastaba not taken by the chapel; chapels decorated for more than one person.	
Complex chapels partly interior and partly exterior.	
Each of the great complex chapels built on its own plan.	
List of great complex chapels.	
(9) <i>Anomalous Chapels grouped under Type (13)</i>	291
Chapels which cannot be classed under types (1)-(12); description of two roofed niches used as chapels at Giza, G 1221 (Dyn. IV) and G 2197 (Dyn. V).	
e. Development of the Offering-chapel in Dyns. IV-VI.	292
(1) <i>The Older Forms of Chapels and Mastabas which preceded the Giza Chapels</i>	292
(2) <i>The Chapel Types used in finishing the Fifteen Initial Cores of the Three Early Nucleus Cemeteries</i>	294
(3) <i>The Chapels of the Twenty-eight Succeeding Cores</i>	295
(4) <i>The Introduction of the Interior L-shaped Chapel with One Niche in the Twin-mastabas of the Eastern Field</i>	296
(5) <i>The Transition from the One-niched Interior Chapel to the Two-niched Chapel</i>	297
(6) <i>The Use of the Rock-cut Tombs instead of Mastabas for Members of the Family of Chephren</i>	300
(7) <i>Effect of the Rock-cut Chapels on Mastaba Chapels</i>	301
Increase in the use of two-niched chapels of type (4 a); introduction of the sized technique in nummulitic examples.	
Introduction of enlarged chapels with expanded wall scenes in Dyn. V: types (5), (7)-(12); in these full effect of the expanded wall scenes and the sized technique of the rock-cut chapels; effect not produced directly but through the pyramid temples of Weserkaf, Sahura, and Neferirkara.	
The mutual effect of the rock-cut chapels and the mastaba chapels of Dyn. V.	
(8) <i>New Types of Chapel introduced in Dyn. V</i>	301
(9) <i>Contemporary Development of the Chapel at Saqqarah</i>	302
(10) <i>Summary: Chronological Order of the Chapel Types at Giza and Saqqarah</i>	304
VIII. THE DECORATION OF THE CHAPELS	305-383
1. THE DECORATED CHAPELS OF DIFFERENT TYPES	305
a. The Decoration of the Crude-brick Chapels of Types (1 a) and (1 b): Slab-stelae	305
b. The Decorated Stone Chapels of the Three Early Nucleus Cemeteries, Types (2 a), (2 b), and (3)	306

	PAGE
c. The Chapels of the Five Finished Twin-mastabas of the Eastern Field	307
d. The Decorated Chapels of the Eastern Field in Immediate Succession to the Five Finished Twin-mastabas	308
e. The Decorated Chapels of the Eight Nummulitic Mastabas of Type VI a, built in Immediate Succession to the Massive Core-mastabas in the Eastern Field	308
f. Other Decorated Chapels of the Western Field which may be assigned to the Reign of Chephren or to the end of Dyn. IV	309
g. The Decorated Rock-cut Chapels of the Quarry Cemeteries	310
h. The Decorated Chapels of Types (3) and (4 a) of the End of Dyn. IV and the First Half of Dyn. V	310
i. The Decorated Chapels of Type (5) of Dyn. V	312
j. The Decorated Chapels of Type (7) of Dyns. V-VI	313
k. Decorated Chapels of Type (10)	313
l. Decorated Chapels in the Shepseskaf-ankh Complex	314
m. Various other Decorated Chapels of Dyns. V-VI, including Rock-cut Chapels	314
2. THE DECORATED PARTS OF THE L-SHAPED CHAPELS	314
a. The Architrave over the Entrance Doorway	315
b. The Drum of Outer Doorway	315
c. The Façade Panels on Each Side of the Outer Doorway	315
d. The Door-jambs	316
e. The Scenes on the Chapel Walls	321
The different wall-spaces in the chapel each decorated with separate scenes; arrangement in different types of L-shaped chapels; relation of the niche or niches to the scenes on the west wall.	
(1) <i>The Large Wall Scenes</i>	321
Classification of wall scenes: (a) the table scene; (b) the offering scene; (c) the presentation scene; (d) the family group; (e) scenes from life; absence of scenes from life in the L-shaped offering-rooms; scenes most necessary for supply of food and drink dominate the L-shaped chapels at Giza.	
Table showing distribution of the various types of wall scenes on the four walls of the offering-room.	
West wall usually bore a presentation scene; east wall decorated also with presentation scene; north wall usually decorated with offering scene or family group; south wall usually decorated with table scene or offering scene.	
(2) <i>The Minor Scenes of the Chapel Walls</i>	324
Component elements of the presentation scene, the offering scene, and the table scene.	
The minor and small independent scenes of the wall decoration:	
(a) <i>The small table scene over the offering-niches</i>	324
(b) <i>The boating scene usually over the doorway</i>	325
(c) <i>'Viewing the document (accounts?) of the house of the weaving women'</i>	326
(d) <i>The bringing of the funerary meal by the servants of the ka</i>	326
(e) <i>The slaughter scene</i>	327
(f) <i>Scenes of dancers, singers, and musicians</i>	329
f. Decoration of the Ka-door	330
The decorated parts of the ka-door.	
(1) <i>The Architrave over the Offering-niche</i>	330
(a) <i>Architraves with titles and name.</i>	
(b) <i>Architraves with offering formula.</i>	
(2) <i>The Tablet of the Ka-door</i>	332
(a) <i>Tablets with old compartment list.</i>	
(b) <i>Tablets with the short list in horizontal lines; without old compartment list.</i>	
(c) <i>Tablets as above, with short list not separated by raised lines.</i>	
(d) <i>Tablets with short list above table but not on right.</i>	
(e) <i>The two-figure tablet.</i>	
(f) <i>The degeneration of the tablet scene.</i>	

	PAGE
(3) <i>The Cross-bar of the Ka-door</i>	336
(4) <i>Drum over the Inner Niche</i>	337
(5) <i>Ka-door, Back of Inner Niche, Middle Panel</i>	338
(6) <i>The Sides of the Inner Niches (Thickness)</i>	339
(a) <i>With standing figure, facing out.</i>	
(b) <i>Men bringing the funerary meal.</i>	
(c) <i>Estates bearing offerings.</i>	
(d) <i>With vertical row of tall boxel stands.</i>	
(7) <i>The Ka-door: Back of the Outer Niche</i>	340
(a) <i>Children or wife and children.</i>	
(b) <i>Man or woman standing facing in, man with staff and wand.</i>	
(c) <i>With servants of the ka.</i>	
(d) <i>With tall boxel-stand.</i>	
(8) <i>Ka-door, Outer Recess, Sides (Thickness)</i>	342
(a) <i>With wall scenes, or compartment list.</i>	
(b) <i>With man standing facing out.</i>	
(c) <i>With estates bearing offerings.</i>	
(d) <i>With men bringing funerary meal.</i>	
(e) <i>With tall stands and vessels.</i>	
(9) <i>West Wall, North and South End: Spaces subsidiary to the Offering-niche</i>	344
3. THE DECORATION OF THE EARLY ROCK-CUT CHAPELS	346
The change of the form introduced by the rock-cut chapels by reason of their excavation; combination of the interior offering-room and the exterior stone chapels of the children of Cheops.	
a. The Decoration of the West Wall of the Offering-room	347
b. The Scenes on Other Walls of the Rock-cut Chapels	347
(1) <i>Table scene</i>	347
(2) <i>The Offering Scene in the Rock-cut Chapels</i>	347
(a) <i>Large offering scenes.</i>	
(b) <i>The pavilion scene.</i>	
(3) <i>The Presentation Scene</i>	349
(4) <i>Scenes of Craftsmen at Work and Pictures of Funerary Furniture in the Early Rock-cut Chapels</i>	350
(5) <i>Family Group</i>	352
c. The Expansion of the Presentation Scene in the Early Rock-cut Chapels	353
(1) <i>The Boating Scene: River Boats being Sailed, Rowed, or Paddled</i>	353
(2) <i>The Swamp Scenes</i>	354
(a) <i>The swamp scene with the owner represented acting in the midst of the scene</i>	354
(b) <i>Minor swamp scenes</i>	356
i. <i>The bird-netting scene.</i>	
ii. <i>Scene of men seining fish.</i>	
iii. <i>Scenes showing the pulling and carrying of papyrus.</i>	
(3) <i>The Agricultural Scenes</i>	358
d. The Expansion of the Offering Scene in the Early Rock-cut Chapels: the Funeral Scene	358
4. THE DECORATION OF THE ENLARGED CHAPELS OF DYN. V-VI	360
a. The Enlargement of the Wall Areas of Chapels	361

	PAGE
b. The Decoration of the Enlarged Mastaba Chapels	361
The diversity of the layout of the decoration of the enlarged chapels; expanded scenes as in rock-cut chapels; decoration derived more immediately from pyramid temples of Dyn. V.	
Descriptions of selected scenes and selected chapels.	
c. The Types of Scenes in the Chapels of Dyns. V-VI	366
Classification of wall scenes in enlarged chapels: (1) table scene; (2) the offering scene with great picture list and often with a great pavilion; (3) the small offering scene with owner seated in kiosk; (4) the scenes from life on the estates (agricultural scenes, &c.); (5) great swamp scene with owner hunting birds, fishing, &c.; (6) scene of hunting wild animals in the desert; (7) scenes of craftsmen at work; (8) the carrying-chair scene; (9) the large funeral scene.	
(1) <i>The Carrying-chair Scene</i>	367
(2) <i>The Late Compartment List of Offerings</i>	368
(3) <i>The Scenes of Funerary Priests performing Ceremonies</i>	369
5. THE DEVELOPMENT OF THE TRADITIONAL KA-DOOR OF PLAIN COMPOUND FORM AT GIZA DURING DYNs. IV-VI	372
Great door and plain compound niche in Dyn. III; the form and parts of the traditional <i>ka</i> -door of plain compound form.	
Effects of the manner of construction on the <i>ka</i> -door at Giza; built <i>ka</i> -doors and monolithic <i>ka</i> -doors; deep <i>ka</i> -doors of the reigns of Cheops and Chephren; <i>ka</i> -doors in rock-cut chapels; growing shallowness of <i>ka</i> -doors during the period Shepseskaf to Neferirkara.	
Development of <i>ka</i> -door at Giza determined by the use of monolithic forms; origin of the framed <i>ka</i> -door in the execution of <i>ka</i> -doors in a stepped wall; general use of framed <i>ka</i> -doors in small and medium mastabas of Dyns. V-VI.	
Reduction of the decorated surfaces of the <i>ka</i> -door by the growing shallowness of the <i>ka</i> -door in monolithic stelae and particularly in the framed <i>ka</i> -doors; number of decorated vertical panels in ordinary <i>ka</i> -doors, in framed <i>ka</i> -doors of two forms (the single frame and the double frame).	
Introduction of the false-door stela; hollow cornice and round moulding; inside the moulding a framed <i>ka</i> -door with either single or double frame; parts of the false-door stela with five or seven vertical panels.	
False-door stela derived from the ceremonial façade of Pyramid temples of early Dyn. V; introduction at Giza after Neweserra of Dyn. V.	
Summary of the development of the <i>ka</i> -door at Giza.	
6. THE USE OF PALACE-FAÇADE PANELLING IN THE DECORATION OF CHAPELS; THE PALACE DOORWAY	379
a. Palace-façade Panelling in the c.b. Temples of the Third Pyramid and the Chapels of its Subsidiary Pyramids	380
b. Palace-façade Panelling on the Face of a Mastaba	380
c. Palace Doors on the Exterior Walls of Chapels	381
d. The Alcove Panelling in the Early Rock-cut Tombs	381
e. Palace Door as Chief Niche in Chapels of Type (3 b)	381
f. Compound Niches of Traditional Form Decorated with Palace Door	382
g. Palace Door on Each Side of Single Niche	382
h. Palace Door beside Niche of Traditional Form	382
i. Palace Door between Two Niches of Traditional Form	382
j. The Significance of the Palace Door in Chapels	382

APPENDIX A:

	PAGE		PAGE
G 1201	385	G 1223-annex	401
G 1203	389	G 1225	403
G 1205	392	G 1227	407
G 1207	394	G 1228 A, B	408
G 1209	396	G 1233	408
G 1223	398	G 1235	411

APPENDIX B:

G 2000

PAGE

414

G 4140

G 4240

G 4340

G 4440

G 4540

G 4640

G 4740

G 4750

G 4760

G 4330

G 4430

G 4431

G 4432

G 4530

G 4630

G 4631

G 4730

G 4830

G 4840

G 4850

G 4860

G 4320

G 4420

G 4520

G 4620

G 4720

G 4820

G 4310

G 4410

G 4411

G 4510

G 4610

G 4710

PAGE

460

465

471

475

479

481

484

485

485

486

486

488

488

488

491

495

499

499

500

500

501

501

502

503

508

509

512

513

514

516

518

519

521

APPENDIX C:

G 2100

G 2100-I-annex

G 2100-II-annex

G 2110

G 2120

G 2130

G 2210

G 2135

G 2140

G 2150

G 2155

G 2160

G 2170

G 2220

418

419

421

422

425

430

433

435

436

437

446

447

449

450

APPENDIX D:

G 4000

G 4160

G 4260

G 4150

G 4250

G 4360

G 4400

G 4560

G 4660

G 4350

G 4450

G 4550

G 4650

455

456

456

457

457

457

458

458

458

459

459

459

459

LIST OF MAPS AND DRAWINGS

I. LIST OF MAPS

- MAP 1. General map of the Giza Necropolis: based on the map prepared by the Survey of Egypt and the mosaic photographic map made by the Egyptian Army Air Force.
- MAP 2. Map of the Western Field, showing the four Nucleus Cemeteries, G 1200, G 2100, G 4000, Cem. en Échelon and the great mastaba G 2000.
- MAP 3. Map of Cem. 7000, The Eastern Field.
- MAP 4. Map of the nucleus cemetery G 1200 with the intermediate mastabas.
- MAP 5. Map of the nucleus cemetery G 2100 with the intermediate mastabas.
- MAP 6. Map of the nucleus cemetery G 4000, rows 1-4 with the intermediate mastabas.

II. LINE DRAWINGS

CHAPTER V: MASTABA TYPES

FIG. 1. Mastaba or core type II a: plan and section of G 1203	39
FIG. 2. Mastaba or core type II b: plan and section of G 4250, copied from <i>Junker</i> , Giza II s, p. 193	40
FIG. 3. Mastaba or core type III-i: plan and section of G 4140	41
FIG. 4. Mastaba or core type III-ii: plan and section of the great mastaba G 2000	42
FIG. 5. Mastaba or core type IV-i: plan and section of G 4430	43
FIG. 6. Core type IV-ii: cased as twin mastaba: plan and section of G 7120	44
FIG. 7. Core type IV-iii, incorporated in cased mastaba: plan and section of G 7430+40	45
FIG. 8. Core type IV-iii, cased as mastaba of type VI-x: plan and section of G 7510, Prince Ankh-haf	46
FIG. 9. Core type IV-iv in cased mastaba of type VI-x: plan and section of G 7650, Akhet-hetep and Princess Meryt-yetes	47
FIG. 10. Mastaba type V: plan and section of G 7050, Queen Nefert-kauw	48
FIG. 11. Mastaba type VI a: plan and section of G 7550, 'Prince' Duwanchor	49
FIG. 12. Mastaba of type VI e: plan and section of G 1457	50
FIG. 13. Mastaba type VII b: plan and section of G 1020	50
FIG. 14. Mastaba of type VIII c with chapel of type (5 a): plan and section of G 1029	51
FIG. 15. Mastaba of type VIII c with chapel of type (7 b): plan and section of G 1047	51
FIG. 16. Mastaba with composite core, type II a+IV-iii: plan and section of G 1223, Prince Ka-m-aha	53
FIG. 17. Corework of type IV-iii added to corework of type IV-i: plan and section of G 7330+40	55
FIG. 18. Plan and section of the unfinished queen's pyramid east of G I-a	70

CHAPTER VI: BURIAL SHAFTS

FIG. 19. Shaft type 1: plan and section of shaft G 2130 A	88
FIG. 20. Shaft type 2: plan and section of shaft G 4140 A	88
FIG. 21. Shaft type 3: plan and section of shaft G 7420 A	89
FIG. 22. Shaft type 4: plan and section of shaft G 2110 A	89
FIG. 23. Shaft type 5: plan and section of shaft G 4430 A	90
FIG. 24. Shaft type 6 a (2): plan and section of shaft G 4320 A (2)	90
FIG. 25. Shaft type 7 a: plan and section of shaft G 1367 B	90
FIG. 26. Shaft type 8: plan and section of shaft G 1362 C	90
FIG. 27. Shaft type 9: plan and section of G 2381 A	91
FIG. 28. Schematic drawing showing the position of the chamber in variation <i>a</i> of shaft types 1-6, 8, when the chamber is on the south	91
FIG. 29. Schematic drawing showing the position of the chamber in variation <i>a</i> of shaft types 1-6, 8, when the chamber is on the west	91
FIG. 30. Schematic drawing showing the position of the chamber in variation <i>b</i> of shaft types 1-6, 8, when the chamber is on the south	91
FIG. 31. Schematic drawing showing the position of the chamber in variation <i>b</i> of shaft types 1-6, 8, when the chamber is on the west	91
FIG. 32. Variation <i>r</i> of shaft type 1: section through doorway of G 1227 A of type 1 ar	92
FIG. 33. Variation <i>m</i> of shaft type 1: section through doorway of G 1223 A of type 1 bmx	92
FIG. 34. Variation <i>m</i> of shaft type 1: section through doorway of G 2100 A of type 1 cm	92
FIG. 35. Variation <i>f</i> of shaft type 1: section through doorway of G 1209 A of type 1 cf	92

FIG. 36. Variation α of shaft type 1: section through doorway of chamber of shaft G 4000 N of type 1 blx: copied from <i>Junker</i> , Giza I, p. 142	93
FIG. 37. Variation of shaft type 2 with ramp: section through doorway of G 4440 A of type 2 brx (ramp)	93
FIG. 38. Variation of type 2 with stair: section through doorway of G 4540 A of type 2 ar (stair)	93
FIG. 39. Schematic drawing showing variation a (1) of shaft types 4 and 5	94
FIG. 40. Schematic drawing showing variation a (2) of shaft types 4 and 5	94
FIG. 41. Schematic drawing showing variation a (3) of shaft types 4 and 5	94
FIG. 42. Schematic drawing showing variation a (4) of shaft types 4 and 5	94
FIG. 43. Schematic drawing showing variation a (5) of shaft types 4 and 5	94
FIG. 44. Shaft type 6 a (2): plan and section of chamber of G 1121 B	96
FIG. 45. Shaft type 6 a (3): plan and section of chamber of G 1110 A	96
FIG. 46. Shaft type 6 b (1): plan and section of chamber of G 1021 A	97
FIG. 47. Shaft type 6 b (2): fan-shaped: plan and section of chamber of G 1016 B	97
FIG. 48. Shaft type 6 c (1): plan and section of chamber of G 1366 D	98
FIG. 49. Shaft type 6 c (2): fan-shaped: plan and section of chamber of G 1212 A	98
FIG. 50. Shaft type 6 d: plan and section of chamber of G 1013 A (1)	99
FIG. 51a. Shaft type 7 a (1): plan and section of chamber of G 1356 B	99
FIG. 51b. Shaft type 7 a (2): plan and section of chamber of G 1359 B	99
FIG. 52. Shaft type 7 a (3): plan and section of chamber of G 1303 J	99
FIG. 53. Shaft type 7 b (1): plan and section of chamber of G 1170 B	99
FIG. 54. Shaft type 7 b (2): plan and section of chamber of G 1315 B	100
FIG. 55. Shaft type 8 a (1): plan and section of chamber of G 1034 D	100
FIG. 56. Shaft type 8 a (5): plan and section of chamber of G 1045 D	100
FIG. 57. Shaft type 8 b (1): plan and section of chamber of G 1174 Y	100
FIG. 58. Shaft type 8 b (2): plan and section of chamber of G 1053 A	101
FIG. 59. Plan and section of the unfinished chamber G 7750 B (1) showing the upward shaft excavated at the inner end of the passage	102
FIG. 60. Red construction lines on roof of G 1225 A: red lines shown as dotted black lines projected on floor of chamber	104
FIG. 61. Red construction lines (shown as dotted black lines) on four walls of the chamber of G 1225 A	104
FIG. 62. Section of joint between lining of chamber and pavement in G 1233 A	105
FIG. 63. Burial chamber of Pyramid G I-a: plan and two sections	130
FIG. 64. Burial chamber of Pyramid G I-b: plan and two sections	130
FIG. 65. Burial chamber of Pyramid G I-c: plan and two sections	131
FIG. 66. Burial chamber of Pyramid G II-a: plan and section: <i>Hölscher</i> , Das Grabdenkmal des Königs Chephren, pp. 34, 64, Pl. XIII	131
FIG. 67. Burial chamber of pyramid G III-a: plan and section: <i>Perring</i> , II, Part 3, Pl. I	132
FIG. 68. Burial chamber of pyramid G III-b: plan and section: <i>Perring</i> , II, Part 3, Pl. I	133
FIG. 69. Burial chamber of pyramid G III-c: plan and section: <i>Perring</i> , II, Part 3, Pl. I	134
FIG. 70. 'Window' in shaft G 1233 A: section through doorway and 'window'	164
FIG. 71. 'Window' in shaft G 1235 A: section through doorway and 'window'	164
FIG. 72. 'Window' in shaft G 2210 A: section through doorway and 'window'	164
FIG. 73. 'Window' in shaft G 7320 A: section through doorway and 'window'	164
FIG. 74. Turning recess in shaft G 7410 B: plan and section of bottom of shaft, turning recess and passage	166
FIG. 75. Blocking of type I b with portcullis groove: plan and section of blocking of G 2100 A	169
FIG. 76. Blocking of type I b (1) without portcullis groove: plan and section of shaft G 4440 A	171
FIG. 77. Blocking of type I a, c.b. wall and portcullis slab: plan and section of doorway of G 1233-Annex	171
FIG. 78. Blocking of type II b (1): plan and section of shaft G 1451 A	172
FIG. 79. Blocking of type III c (2): plan and section of shaft G 1413 C	172
FIG. 80. Blocking of type IV a (2): plan and section of shaft G 1451 B II	173
FIG. 81. Blocking of type V c (2): (two slabs): plan and section of shaft G 1177 F	174
FIG. 82. Blocking of type V e+ (2): plan and section of shaft G 1156 a A	174
FIG. 83. Blocking of type VI c (2): plan and section of shaft G 1210 D	174

CHAPTER VII. THE FINISHED MASTABAS: CORES, CASTINGS, AND CHAPELS

FIG. 84. Section of X-casing: section of core and casing of G 5080	179
FIG. 85. Section of Y-casing: section of core and casing of G 7350	179
FIG. 86. Section of Z-casing: section of core and casing of G 2150	179
FIG. 87. Section of Z-casing: on rubble core: section of G 1020	179

FIG. 88. Section of W-masonry: section of retaining wall of G 7550	179
FIG. 89. Section of W-casing around old core: G 4940	179
FIG. 90. Section of retaining wall of U-masonry: G 1029	179
FIG. 91. Section of U-casing on rubble core: G 2330	179
FIG. 92. Section of retaining wall of ZU-masonry: G 2352	179
FIG. 93. C.B. chapel of type (1 a): G 4250: <i>Junker</i> , Giza I, p. 193	187
FIG. 94. C.B. chapel of type (1 a): plan and section of chapel of G 1203	188
FIG. 95. C.B. chapel of type (1 a): G 1205	188
FIG. 96. C.B. chapel of type (1 a): plan of G 4360: <i>Junker</i> , Giza I, p. 200	189
FIG. 97. C.B. chapel of type (1 a): plan of chapel of G 4350: <i>Junker</i> , Giza I, p. 196	189
FIG. 98. C.B. chapel of type (1 a): G 4450: <i>Junker</i> , Giza I, p. 206	190
FIG. 99. Rebuilt c.b. chapel of type (1 a): G 1207	190
FIG. 100. Rebuilt c.b. chapel of type (1 a): without slab stela: G 1209	191
FIG. 101. Rebuilt and partly destroyed chapel of type (1 a): G 1235	191
FIG. 102. C.B. chapel of type (1 b) with exterior stone room of type (2 a): F 4160: <i>Junker</i> , Giza I, p. 165	192
FIG. 103. C.B. chapel of type (1 b) + stone room of type (2 a): G 4260, <i>Junker</i> , Giza I, p. 184	192
FIG. 104. C.B. chapel of type (1 c), built to complete an interior chapel of type (3 a): G 1201	194
FIG. 105. C.B. chapel of type (1 c): G 4660: <i>Junker</i> , Giza I, p. 214	194
FIG. 106. C.B. chapel of type (1 c): G 4430	195
FIG. 107. C.B. chapel of type (1 c) with two stone stelae: G 4630	196
FIG. 108. Chapel of type (1 d): G 4530	197
FIG. 109. Exterior stone chapel of type (2 b): G 2110	201
FIG. 110. Exterior stone chapel of type (2 b): G 4240	202
FIG. 111. Interior stone chapel of type (3 a): G 1223	204
FIG. 112. Interior stone chapel of type (3 a): built in hole broken in core: G 2130	204
FIG. 113. Interior stone chapel of type (3 a), built in recess in remodelled core type IV-i, G. 7120	205
FIG. 114. Interior stone chapel of type (3 a), built in recess in original core: G 7140	206
FIG. 115. Chapel recess intended for chapel of type (3 a) but walled up by casing and used for S. subsidiary niche: G 7440	207
FIG. 116. Interior stone chapel of type (3 a), built in chapel recess in massive core: G 7350	208
FIG. 117. Interior stone chapel of type (3 a) inserted in old core of type IV-i which had been cased with W-masonry: G 4710	208
FIG. 118. Interior chapel of type (3 a) in nummulitic mastaba of type VI a: G 7550	209
FIG. 119. Interior nummulitic chapel of type (3 b): G 7060	209
FIG. 120. Two-niched pyramid chapel, G I-b	212
FIG. 121. Interior two-niched chapel of type (5 a): G 4000 Prince Hemyuwnuw: <i>Junker</i> , Giza I, p. 133	213
FIG. 122. Interior chapel of type (4 a) of white limestone: G 7510, Prince Ankh-haf	213
FIG. 123. Interior chapel of type (4 a) of white limestone: G 2150 of type VII b	215
FIG. 124. Interior chapel of type (4 a) of white limestone: G 4940 of type VII a	215
FIG. 125. Two connected rock-cut chapels: one of type RC (ia) Prince Nekauwra (LG 87) and the other of type RC (id), Queen Persenet (LG 88): LD, Text-band I, p. 105	222
FIG. 126. Rock-cut chapel of type RC (ib), Debehen (LG 90): LD Text-band I, p. 111	222
FIG. 127. Rock-cut chapel of type RC (ib): Prince Min-yuwen (LG 92)	223
FIG. 128. Rock-cut chapel of type RC (ic): Prince Sekhem-ka-ra (LG 89)	224
FIG. 129. Rock-cut chapel of type RC (ic): Prince Nebemakhet (LG 12)	224
FIG. 130. Rock-cut chapel of type RC (ic): LG 89-x, no name	225
FIG. 131. Rock-cut chapel of type RC (id): Queen Meresankh III, G 7530	226
FIG. 132. Rock-cut chapel of type RC (id): Prince Khuw-ne-ra, G MQ No. 1	227
FIG. 133. Rock-cut chapel of type RC (id): Queen Rekhmet-ra: plan furnished by Prof. Selim Bey Hassan	228
FIG. 134. Rock-cut chapel of type RC (id): Princess Hemet-ra, plan furnished by Prof. Selim Bey Hassan	229
FIG. 135. Rock-cut chapel of type RC (ie): Queen Buwnefer, plan furnished by Prof. Selim Bey Hassan	230
FIG. 136. Rock-cut chapel of type RC (ie): Prince Ankh-ma-ra: plan furnished by Prof. Selim Bey Hassan	231
FIG. 137. Rock-cut chapel of type RC (if): Prince Newesserra: plan furnished by Prof. Selim Bey Hassan	232
FIG. 138. Rock-cut chapel of type RC (ii a): Selim Bey Hassan, Giza I, Fig. 22	234
FIG. 139. Rock-cut chapel of type RC (ii b): LG 71	235
FIG. 140. Rock-cut chapel of type RC (ii c): Prince Nebemakhet, LG 86	236
FIG. 141. Rock-cut chapel of type RC (ii c): G 7759 a, plan and view of W. wall	236
FIG. 142. Rock-cut chapel of type RC (iii a): Queen Kha-merer-nebty I 'Galarza Tomb', Darassy, <i>Annales X</i> , p. 41	237
FIG. 143. Rock-cut chapel of type RC (iii b): LG 77, Thenti	238
FIG. 144. Rock-cut chapel of type RC (iii b): G 7814, Ka-aper	238

FIG. 145. Rock-cut chapel of type RC (iii b): Prince Yuwen-ra, son of Chephren: plan furnished by Prof. Selim Bey Hassan	239
FIG. 146. Rock-cut chapel of type RC (iv a): G 1607, Ian and Neferi	240
FIG. 147. Rock-cut chapel of type RC (iv a): G 1608, Sennuw	241
FIG. 148. Rock-cut chapel of type RC (iv b): G 1611	242
FIG. 149. Rock-cut chapel of type RC (v a): G 2196, Yasen	242
FIG. 150. Rock-cut chapel of type RC (v b): Ni-ankh-ra: plan furnished by Prof. Selim Bey Hassan	244
FIG. 151. Rock-cut chapel of type RC (v b): LG 64, Nes-m-nehuw	245
FIG. 152. Mastaba chapel of type (6 b): G 5110, Prince Duwanera	249
FIG. 153. Mastaba chapel of type (6 c): G 5230, 'Prince' Khnum-baf	250
FIG. 154. Mastaba chapel of type (5 a): G 1204, N. chapel	256
FIG. 155. Mastaba chapel of type (5 a): G 1029, Sekhem-ka	256
FIG. 156. Mastaba chapel of type (5 a): G 1026, Khnumuw	257
FIG. 157. Mastaba chapel type (5 b): G 1011	257
FIG. 158. Mastaba chapel type (5 c): G 1151, Nefer-ked	257
FIG. 159. Mastaba chapel type (5 d): G 1208, N. chapel, Akhet-hetep	257
FIG. 160. Mastaba chapel type (7 a): G 1313, Iy-zefa	262
FIG. 161. Mastaba chapel type (7 b): G 1047, Min-ankh	262
FIG. 162. Mastaba chapel type (7 c): G 2370, Senezemib-Yenti	265
FIG. 163. Mastaba chapel type (7 c): added to chapel of type (5 a): G 5520 (LG 28), Sankh-n-ptah	266
FIG. 164. Mastaba chapel type (7 d): with pillared portico, G 2378, Senezemib-Mehi	267
FIG. 165. Mastaba chapel type (7 d): G 2374, Khnum-enti	268
FIG. 166. Exterior chapel of type (8 a): G 1676	275
FIG. 167. Exterior chapel of type (8 b): G 1406	275
FIG. 168. Exterior chapel of type (8 bx): G 3010: <i>Fisher</i> , p. 86	277
FIG. 169. Exterior chapel of type (8 c): G 3085 (<i>Fisher</i> 2085)	277
FIG. 170. Exterior chapel of type (8 c) with deep recess on S. G 1309	277
FIG. 171. Exterior chapel of type (8 c): G 3003 (<i>Fisher</i>)	278
FIG. 172. Exterior chapel of type (8 cx): G 1121	278
FIG. 173. Exterior chapel of type (8 cx): G 3033, <i>Fisher</i>	279
FIG. 174. Exterior chapel of type (8 e): G 2100-II-annex 'Princess' Nensezerka: Junker, Giza II, p. 97	280
FIG. 175. Exterior chapel of type (8 e): G 5020	281
FIG. 176. Exterior chapel of type (8 f): G 1412: c.b. chapel around S. niche	281
FIG. 177. Exterior stone chapel of type (8 f): G 5210, Khemten	282
FIG. 178. Exterior c.b. chapel of type (8 g), one room: G 1351	282
FIG. 179. Exterior c.b. chapel of type (8 g), one room around S. niche of G 1407	283
FIG. 180. Exterior stone room around S. niche, type (8 g): G 4410	284
FIG. 181. Exterior chapel of type (10 a): G 7244+46, Khuw-n-ptah	285
FIG. 182. Interior chapel of type (10 c): G 2091, Kapi	286
FIG. 183. Portico chapel of type (11 a): G 2001, Thetuw	287
FIG. 184. Portico chapel of type (11 a), with masonry court, G 2004	287
FIG. 185. Portico chapel of type (11 b), opening on roofed corridor, G 4513	287
FIG. 186. Portico chapel of type (11 b), opening on corridor, G. 2093	288
FIG. 187. Portico chapel of type (11 c), opening on street, G 2414	288
FIG. 188. Complex chapel of type (12): G 6010, Ptah-nefer-bauw	291
FIG. 189. Chapel type (12) with cruciform nucleus: LG 53+54, Seshemnofer IV and Hetep-heres	291
FIG. 190. Anomalous chapel of type (13 a): G 1221, Shad	292
FIG. 191. Saqqarah chapel of type (4 b): MM C 19	303
FIG. 192. Saqqarah chapel of type (7 a (1)): MM D 60	303
FIG. 193. Saqqarah chapel of type (7 a (3)): MM D 53	303

CHAPTER VIII: THE DECORATION OF THE CHAPELS

FIG. 194. Deep compound ka-door in G 7140: façade and two sections: Prince Khufuw-khaf	372
FIG. 195. Special large ka-door in G 7220, Prince Hordedef: façade and two sections	373
FIG. 196. Subsidiary N niche, cut in casing: G 2130: façade and plan at metre above floor	373
FIG. 197. Built ka-door in chapel of type (4 a): G 4940 (Northern false-door), façade and two sections	373
FIG. 198. Monolithic ka-door of traditional form in chapel of type (4 b): G 1027, façade and 2 sections	373
FIG. 199. Monolithic ka-door recessed in W. wall of unfinished chapel of type (3 a): G 1201, Prince Wepemnofret: horizontal section	374

FIG. 200.	Monolithic ka-door in chapel of type (3 a) (unfinished): G 1225 S: horizontal section	374
FIG. 201.	Ka-door cut in monolith: G 1225 N: Princess Nefert-yabet: horizontal section	374
FIG. 202.	Ka-door cut in monolith in casing: G 2120: horizontal section	374
FIG. 203.	Shallow ka-door in the rock-cut chapel of Meresankh III: G 7530 room a: façade and horizontal section	374
FIG. 204.	Great monolithic ka-door set in chapel of type (4): G 4520, Khufuw-ankh: presented by Weserkaf: façade and section	375
FIG. 205.	Monolithic ka-door set in recess in casing: G 2110, Nofer, subsidiary N. niche: horizontal section	375
FIG. 206.	Framed monolithic ka-door set in a wall of stepped Z-masonry: G 2150, Kanofer, subsidiary N. niche: façade and horizontal section	375
FIG. 207.	Framed ka-door of massive blocks, inserted in stepped wall of G 4430: façade and two sections	375
FIG. 208.	Shallow ka-door in chapel of type (5 c): G 1151, Nefer-ked: façade and two sections	376
FIG. 209.	Monolithic framed ka-door in chapel of type (4 b): G 5280, Peh-n-ptah: façade and two sections	376
FIG. 210.	Framed ka-door in chapel of type (5 c): G 4611, N. niche: façade and section	376
FIG. 211.	Framed ka-door in deep recess in chapel of type (5 c): G 4611, S. niche: façade and horizontal section	376
FIG. 212.	Framed ka-door in chapel of type (5 a): G 1171: façade and horizontal section	376
FIG. 213.	Monolithic framed ka-door set in façade of mastaba: G 2352: façade and horizontal section	377
FIG. 214.	False-door stela of form (a): G 7102, Yeduw: façade and horizontal section	378
FIG. 215.	False-door stela of form (b): G 2370, Senezemib-Yenti: façade and horizontal section	378

APPENDIX A: CEM. G 1200

FIG. 216.	G 1201: E-W section through mastaba and addition of core type IV-iii	386
FIG. 217.	G 1201: plan and section of shaft	388
FIG. 218.	G 1201: objects found in debris in shaft and chamber	388
FIG. 219.	G 1203: plan and section of shaft	389
FIG. 220.	G 1203: objects found in debris in shaft and chamber	391
FIG. 221.	G 1205: plan and section of shaft	392
FIG. 222.	G 1207: plan of shaft	394
FIG. 223.	G 1209: plan and section of shaft	396
FIG. 224.	G 1209: objects found in debris of chamber	397
FIG. 225.	G 1223: plan and section of shaft A	398
FIG. 226.	G 1223-annex: plan and section of annex shaft A	398
FIG. 227 a.	G 1223 shaft A: objects found in debris of shaft and chamber	400
FIG. 227 b.	G 1223-annex: pottery thrown out from annex shaft A	402
FIG. 228.	G 1225: E-W section through annex chapel	403
FIG. 229.	G 1225: plan and section of shaft	403
FIG. 230.	G 1225-annex: plan and section of annex shaft A	404
FIG. 231.	G 1225: shaft A: objects found in debris of shaft and chamber	406
FIG. 232.	G 1227: plan and section of shaft	407
FIG. 233.	G 1233: plan and section of shaft A	409
FIG. 234 a.	G 1233-annex: plan and section of annex shaft A	409
FIG. 234 b.	G 1233-annex: plan and section of wooden coffin in chamber of annex shaft A	409
FIG. 234 c.	G 1233-annex: pottery from chamber of annex shaft A	410
FIG. 235.	G 1235: plan and section of shaft	411
FIG. 236.	G 1235: offering basin of Yeny	412

APPENDIX B: G 2000

FIG. 237 a.	G 2000: plan and section of shaft	415
FIG. 237 b.	G 2000: pottery jar from chamber	415

APPENDIX C: CEMETERY G 2100

FIG. 238.	G 2100: section through chapel	418
FIG. 239.	G 2100: objects from shaft	419
FIG. 240.	G 2110: section through mastaba and chapel	423
FIG. 241.	G 2110: reconstruction by W. S. Smith of west wall of chapel from parts of wall in position and fragments in the Glyptothèque Ny Carlsberg, Copenhagen, and the Barrocco collection in Rome <i>facing page</i>	424
FIG. 242.	G 2110: reconstruction by W. S. Smith of east wall of chapel from parts of wall in position, a large fragment in Copenhagen and some small pieces <i>facing page</i>	424
FIG. 243.	G 2120: plan of chapel: section of chapel looking west and section of chapel looking north	424

FIG. 244.	G 2120: shaft A: plan and section	425
FIG. 245.	G 2120: objects from shaft A	426
FIG. 246.	G 2120: fragments of granite drum with name of Prince Seshat-sekhentyuw	427
FIG. 247.	G 2130: section of mastaba and chapel	430
FIG. 248.	G 2130: drawing by W. S. Smith of fragmentary chapel reliefs	431
FIG. 249.	G 2130: objects from shaft A: (a) clay seal impression: (b) flints	432
FIG. 250.	G 2210: section of core and addition through emplacement of chapel	433
FIG. 251.	G 2210: fragments of relief from chapel	433
FIG. 252.	G 2210: shaft A: plan and section of shaft and chamber	434
FIG. 253.	G 2210: shaft A: pot marks from fragments of pottery vessels	435
FIG. 254.	G 2140: plan and section of chapel	436
FIG. 255.	G 2140: shaft A: plan and section	436
FIG. 256.	G 2140: pottery jar from shaft A	437
FIG. 257.	G 2150: drawing of west wall of chapel by W. S. Smith	<i>facing page</i> 438
FIG. 258.	G 2150: drawing of N. wall of chapel by W. S. Smith	438
FIG. 259.	G 2150: drawing of south wall of chapel by W. S. Smith	439
FIG. 260.	G 2150: drawing of east wall of chapel by W. S. Smith	<i>facing page</i> 440
FIG. 261.	G 2150: drawing of north jamb of entrance by W. S. Smith	440
FIG. 262.	G 2150: drawing of south jamb of entrance by W. S. Smith	441
FIG. 263.	G 2150: drawing by W. S. Smith of façade of mastaba north of chapel entrance and architrave from north subsidiary niche	<i>facing page</i> 442
FIG. 264.	G 2150: drawing by W. S. Smith of façade south of chapel entrance	442
FIG. 265.	G 2150: plan and section of chapel	443
FIG. 266.	G 2150: shaft A: plan and section	443
FIG. 267.	G 2150: objects from shaft A	443
FIG. 268.	G 2150: shaft B: plan and section	444
FIG. 269.	G 2155: inscribed offering stone	448
FIG. 270.	G 2155: inscribed architrave	448
FIG. 271.	G 2160: plan and section of shaft	448
FIG. 272.	G 2160: pottery bowl from shaft A	448
FIG. 273.	G 2170: shaft A: plan and section of shaft	449
FIG. 274.	G 2170: shaft A: objects from shaft	449
FIG. 275.	G 2220: plan of chapel	450
FIG. 276.	G 2220: shaft B: plan and section	451
FIG. 277.	G 2220: intrusive limestone head-rest from shaft B	451
FIG. 278.	G 2220: shaft C: plan and section	452

APPENDIX D: G 4140-4740

FIG. 279.	G 4140: objects from shaft A	461
FIG. 280.	G 4140: upper left corner of slab stela showing name	462
FIG. 281.	G 4240: shaft A: plan and section	465
FIG. 282.	G 4240: objects from shaft A	467
FIG. 283.	G 5020: objects from Annex shaft A	469
FIG. 284.	G 4340: shaft A: plan and section	471
FIG. 285.	G 4340: objects from shaft A	472
FIG. 286.	G 4440: shaft A: plan and section	475
FIG. 287.	G 4440: objects from shaft A	476
FIG. 288.	G 4540: shaft A: plan and section	479
FIG. 289.	G 4540: objects from shaft A	480
FIG. 290.	G 4640: shaft A: plan and section	482
FIG. 291.	G 4640: objects from shaft A	483
FIG. 292.	G 4740: shaft A: plan and section	484
FIG. 293.	G 4740: alabaster bowl from shaft A	484

APPENDIX D: G 4330-4830

FIG. 294.	G 4330: shaft A: plan and section	486
FIG. 295.	G 4430: two seal impressions on mud from shaft A	487
FIG. 296.	G 4530: shaft A: plan and section	488

LIST OF PLATES

- PLATE 1. *a.* Pyramid Promontory viewed from NE: 1905.
b. Pyramids, looking NNE: 1905.
- PLATE 2. *a.* Pyramids of Cheops and Chephren viewed from NW: 1914.
b. Cheops Pyramid and Cemetery G I S, looking NE from Chephren Pyramid: 1932.
- PLATE 3. *a.* Second Pyramid and temple and western side of Cheops-Chephren quarry seen from Cheops Pyramid: 1913.
b. Sphinx and eastern side of Cheops-Chephren quarry, from Cheops Pyramid: 1932.
- PLATE 4. *a.* Giza Necropolis and Cheops-Chephren quarry viewed from SE: 1937.
b. Cheops-Chephren quarry as excavated by Prof. Selim Bey Hassan, seen from Cheops Pyramid: 1937.
- PLATE 5. *a.* Eastern Field before excavation: 1913.
b. Eastern Field looking east: 1924.
- PLATE 6. *a.* Eastern Field including the great Sphinx, looking ESE: 1932.
b. Cem. G 7000, Nucleus cemetery, looking ESE: 1932.
- PLATE 7. *a.* Western Field, looking west from Cheops Pyramid: 1932.
b. Middle and northern parts of Western Field: 1932.
- PLATE 8. *a.* Western Field, looking NNE from Second Pyramid: 1932.
b. Western Field, southern part, looking west from First Pyramid: 1932.
- PLATE 9. *a.* Cem. G 1000-1200 before excavation, looking west from top of G 2000: 1904.
b. Cem. G 1200 after excavation, looking west from top of G 2000: 1906.
- PLATE 10. *a.* Cem. G 1200, Mastabas in southern row, looking ESE: 1906.
b. Cem. G 1200, Avenue between middle and southern row of mastabas, looking east: 1906.
- PLATE 11. *a.* G 1201, Chapel looking north: 1905.
b. G 1201, Back of west wall of stone chapel and slab-stela in core wall covered by unscribed slab, looking down to south: 1905.
c. G 1201, Covering slab pulled forward to show slab-stela.
d. G 1201, Slab-stela in place with covering slab removed.
- PLATE 12. *a.* G 1203, Exterior c.b. chapel of type (1 a), looking NNW: 1904-5.
b. G 1203, Chapel, looking down to west on top of walls of room C: 1904-5.
c. G 1205, Exterior c.b. chapel of type (1 a), looking north: 1904-5.
d. G 1205, Offering-room, looking south, showing mud platform and statue basis: 1904-5.
- PLATE 13. *a.* G 1205, Chapel, looking west, slab-stela in place: 1904-5.
b. G 1205, Slab-stela in emplacement.
c. G 1207, Exterior c.b. chapel of type (1 a), looking west, slab-stela in place: 1904-5.
d. G 1207, Offering-room, looking south, showing mud platform: 1904-5.
e. G 1207, Slab-stela in place.
- PLATE 14. *a.* G 1209, Exterior c.b. chapel without slab-stela, type (1 a), looking west: 1905.
b. G 1223, Exterior c.b. chapel, looking south: 1906.
c. G 1223, Exterior chapel, room b, looking SW: 1906.
d. G 1223, Interior stone chapel, looking south: 1906.
e. G 1223, Whole chapel, looking west: 1906.
f. G 1223, Slab-stela in place in retaining wall of core: 1904-5.

- PLATE 15. *a.* G 1223, Enlargement of mastaba on west and south, looking NE from G 1205: 1906.
b. G 1225, Chapel looking SW, unfinished interior chapel of type (3) and final c.b. chapel: 1904-5.
c. Between G 1223 and 1225, looking north, showing contact of enlargements of two mastabas: 1904-5.
d. G 1225, Annex, subsidiary north chapel, looking NW: 1906.
e. G 1225, Casing of west wall, looking SE: 1906.
f. G 1225, Annex, looking SW from top of 1233: 1934.
- PLATE 16. *a.* G 1227, Exterior c.b. chapel of type (1 a), looking SW: 1906.
b. G 1227, Chapel, slab-stela in place, looking WSW: 1904-5.
c. G 1227, Small mastabas built against east face, looking SSW: 1905-6.
d. G 1227, Annex and subsidiary north chapel, looking west: 1934.
e. G 1235, Exterior c.b. chapel of type (1 a), looking SSW: 1905.
f. G 1235, Slab-stela in place in chapel, also roofing slabs of intrusive burial chamber: 1905.
- PLATE 17. *a.* G 1201, Slab-stela of Prince Wepemnofret.
b. G 1203, Broken slab-stela of Kanofer.
- PLATE 18. *a.* G 1205, Slab-stela of Khuwfuw-nekht.
b. G 1207, Slab-stela of Nofret.
- PLATE 19. *a.* G 1223, Slab-stela of Prince Ka-m-aha.
b. G 1225, Slab-stela of Princess Nefert-yabet, in the Collection of Mr. Atherton Curtis in Paris.
- PLATE 20. *a.* G 1227, Slab-stela of Sethy-hekenet.
b. G 1235, Slab-stela of Yeni.
- PLATE 21. *a.* G 1201, Burial chamber of type 1 a1, white limestone lining on north wall west of doorway: 1906.
b. G 1203, shaft A, Looking down shaft to show portcullis slab and remains of interior blocking: 1936.
c. G 1203 A, Chamber, remains of lining around doorway, looking NE: 1905.
d. G 1203 A, Canopic pit in SE corner: 1905.
e. G 1203 A, Red construction lines and chisel marks on ceiling: 1905.
f. G 1203 A, Reserve head as found, looking south: 1904-5.
- PLATE 22. *a-e.* G 1203, Reserve head of Kanofer.
f. G 1205, Burial Chamber, lining around doorway, looking north: 1934.
g. G 1205, SE corner of burial chamber: 1934.
- PLATE 23. *a.* G 1223, Mouth of shaft A: 1905.
b. G 1223 A, SE corner of chamber stripped of lining: 1905.
c. G 1225 A, Chamber, entrance doorway, looking north: 1936.
d. G 1225 A, SE corner of chamber, stripped walls and architrave from over doorway: 1934.
e. G 1227 A, North wall of chamber, opening of passage, plaster marks and red line on stripped wall: 1932.
f. G 1233 A, 'Window' over doorway, opening in shaft, looking south: 1936.
- PLATE 24. *a.* G 1235 A, North wall of chamber, remains of pavement and 'window' above doorway: 1934.
b. G 1235 A, Looking down shaft to south; coffin half drawn out of chamber into shaft; roofing of passage: 1934.
c. G 1233, Annex, looking down shaft to south, portcullis slab in place: 1905.
d. G 1233, Annex, shaft looking south, interior c.b. blocking of passage: 1905.
e. G 1233, Annex, collapsed wooden coffin and two jugs in chamber: 1905.
f. G 1233, Annex, skeleton on floor of coffin: 1905.

- PLATE 25. *a.* Mastaba G 2000 and Cem. G 2100, looking north from Chephren Pyramid: 1905-6.
b. G 2000, Eastern face, middle part with chapel partly excavated.
c. G 2000, Chapel, looking west.
d. G 2000, North end and subsidiary north niche, looking west: 1912.
- PLATE 26. *a.* G 2000, shaft B, Top looking down to south: 1912.
b. G 2000 B, Burial in chamber, looking west: 1912.
c. Cem. G 2100 before excavation, looking ESE from G 2000: 1905.
d. G 2100 and G 2100-I-Annex, East face, looking SSW: 1905-6.
- PLATE 27. *a.* G 2100, Emplacement for slab-stela and destroyed chapel, looking west: 1905-6.
b. G 2100 A, Portcullis grooves and shaft: 1905-6.
c. G 2100 A, North wall of chamber and blocking in passage: 1905-6.
d. G 2100 A, Remains of burial in NW corner of chamber: 1905-6.
- PLATE 28. *a.* G 2100 A, SE corner of chamber with canopic pit, scattered bones and models: 1905-6.
b. G 2100 A, SE corner of chamber showing lining: 1936.
c. G 2100 A, SW corner of chamber showing lining: 1936.
d. G 2100 A, NW corner of chamber showing lining: 1936.
- PLATE 29. *a.* G 2110, East face and exterior chapel, looking SW: 1905-6.
b. G 2110, Chapel, looking west: 1905-6.
c. G 2110, Stepped face of core and casing north of chapel, looking south: 1905-6.
- PLATE 30. *a.* G 2110, South entrance jamb of chapel in Louvre.
b. G 2110, North entrance jamb of chapel in Boston, found displaced.
- PLATE 31. *a.* G 2110, Chapel, north end of east wall in place.
b. G 2110, Chapel, blocks from south end of east wall in Glyptothèque Ny Carlsberg, Copenhagen.
c. G 2110, Chapel, tablet from false-door in west wall, in Barrocco Collection, Rome.
- PLATE 32. *a.* G 2110, Chapel, south half of west wall in position.
b. G 2110, Chapel, adjoining part of west wall in Glyptothèque Ny Carlsberg, Copenhagen.
- PLATE 33. *a.* G 2110, Chapel, fragments of upper parts of south wall in Boston, found displaced.
b. G 2110, Chapel, lower part of south wall in place.
- PLATE 34. *a.* G 2110, shaft A, Portcullis stone and fragment of coffin in bottom of shaft.
b. G 2110 A, Reserve head as found.
c-f. G 2110, Reserve head of Nofer.
g. G 2120, East face looking SW: 1906.
- PLATE 35. *a.* G 2120 A, Packing of broken stones in shaft: 1906.
b. G 2120 A, Objects in bottom of shaft: 1933.
c. G 2120 A, Portcullis slab, looking south.
d. G 2120 A, Lining of west wall of chamber: 1933.
e. G 2130, South and east faces, looking NW: 1905-6.
f. G 2130, North and east faces, looking WSW: 1936.
- PLATE 36. *a.* G 2130, Interior chapel, looking west.
b. G 2130, Interior chapel, looking SW from inside doorway.
c. G 2130, North panel of *ka*-door: 1930.
d. G 2130, Inscription on back of inner niche of *ka*-door: 1931.
e. G 2130, Casing and core, middle of east face, looking north.
f. G 2130 A, Burial chamber, looking SW: 1932.
- PLATE 37. *a.* G 2210, South end, looking west, stepped core, massive enlargement and chapel recess: 1935.
b. G 2210 A, 'Window' over passage to chamber, looking south.
c. G 2210 A, Blocking of passage, looking south.
d. G 2210 A, Chamber as found, looking west.

- PLATE 38. *a.* G 2140, East face, looking SW: 1937.
b. G 2140, Unfinished inscription on architrave of *ka*-door in interior chapel, type (3 a).
c. G 2150, East face and exterior c.b. chapel, looking south: 1912.
d. G 2150, Entrance to interior chapel of type (4 a), looking west: 1912.
e. G 2150 A, Granite coffin in chamber, looking south: 1933.
- PLATE 39. *a.* G 2120, Slab-stela of Seshat-sekhentiuw.
b. G 2150, Blocks from south jamb of chapel entrance.
- PLATE 40. *a.* G 2150, West wall of interior chapel.
b. G 2150, South wall of interior chapel.
- PLATE 41. *a.* G 2220, North end of east wall of interior chapel.
b. G 2220, South end of east wall of interior chapel.
- PLATE 42. *a.* G 2220, shaft B, Wooden coffin in chamber, looking north.
b. G 2220 B, Linen breasts from mummy.
c. G 2220 B, Mummy in coffin.
d. G 2220 B, Mummy: wrappings imitate dress of woman.
- PLATE 43. *a.* G 2150 A, Fragment of carved wood from burial chamber.
b. G 2150 A, Model alabaster vessels and pottery.
c. G 2150 A, From chamber, copper models and other objects.
d. G 2120, Alabaster models and pottery; G 2160, Pottery bowl.
e. G 2100 A, Alabaster shoulder jar.
f. G 2120 A, Alabaster jug type XIV a.
- PLATE 44. *a.* Cem. G 4000, Looking west from Cheops Pyramid: 1913.
b. Cem. G 4000, Looking north from Second Pyramid: 1915.
- PLATE 45. *a.* Cem. G 4000, Street between lines 4 and 5, looking north from south end of G 4411: 1914.
b. Cem. G 4000, Street between rows 4 and 5, looking south from north of G 4440: 1914.
c. Cem. G 4000, Street between rows 5 and 6, looking north from south end of G 4520: 1914.
d. Cem. G 4000, Street between rows 6 and 7, looking north from south end of G 4620: 1914.
- PLATE 46. *a.* G 4140, Remains of chapel, looking NW: 1912.
b. G 4140, Slab-stela in place: 1912.
c. G 4140 A, Reserve head in debris in shaft: 1913.
d. G 4140 A, Chamber, second reserve head as found: 1913.
e. G 4140 A, SE corner of lined chamber: 1913.
f. G 4140 A, East wall of lined chamber: 1913.
- PLATE 47. *a.* G 4240, Cased mastaba, looking SSW: 1937.
b. G 4240, Chapel, looking down to W: 1914.
c. G 4240, Chapel, *ka*-door, looking down to west: 1914.
d. G 4240, Exterior stone chapel, looking SW: 1937.
- PLATE 48. *a.* G 4240 A, Unlined chamber of type 2, looking north, stair, door, blocking: 1934.
b. G 4240 A, SE corner of chamber with canopic pit: 1934.
c. G 4240 A, Alabaster vessels in thieves' debris in bottom of shaft: 1913.
d. G 4340, Chapel and casing, looking NNW: 1914.
e. G 4340 A, Reserve head in thieves' debris of shaft: 1913.
f. G 4340 A, Mummy thrown aside in SW corner of lined chamber, looking west: 1913.
- PLATE 49. *a.* G 4340 A, NE corner of lined chamber, ramp, doorway, and blocking: 1934.
b. G 4340 A, SE corner of chamber: 1934.
c. G 4440 A, Reserve heads in thieves' debris at bottom of shaft: 1913.
d. G 4540, Street between G 4540 and 4560 showing chapel, looking south: 1914.
e. G 4540 A, Reserve head in shaft just above portcullis slab: 1913.
f. G 4540 A, Portcullis slab in place: 1913.

- PLATE 50. *a.* G 4540 A, Blocking, looking south into passage: 1913.
b. G 4540 A, Disturbed burial beside plastered west wall of lined chamber: 1913.
c. G 4540 A, SE corner of plastered lined chamber: 1913.
d. G 4640, East face looking north showing remains of chapel and monolithic stela: 1913.
e. G 4640 A, Reserve head in bottom of shaft: 1913.
f. G 4640 A, Portcullis slab, looking down to SSE: 1913.
- PLATE 51. *a.* G 4640 A, Blocking in passage, looking south: 1913.
b. G 4640 A, SE corner of lined chamber: 1913.
c. G 4640 A, Canopic pit, human bones scattered by thieves: 1913.
d. G 4740, Street east of mastaba with secondary mastaba, looking south: 1914.
e. G 4740 A, Unlined chamber, looking NE, stair and part of blocking: 1913.
f. G 4740 A, Chamber looking WNW, showing remains of burial: 1913.
- PLATE 52. *a.* G 4140 A, Reserve head of husband of princess.
b. G 4140 A, Reserve head of Princess Merytyetes.
- PLATE 53. *a.* G 4240 A, Reserve head of Prince Sneferuw-seneb.
b. G 4340 A, Reserve head of man.
- PLATE 54. *a.* G 4440 A, Reserve head of man.
b. G 4440 A, Reserve head of woman.
- PLATE 55. *a.* G 4540 A, Reserve head of woman.
b. G 4640 A, Reserve head of man.
- PLATE 56. *a.* Reserve head of woman found in thieves' debris of pit G 5020 Annex, perhaps from G 4240 A.
b. Reserve head of man intrusive in G 4940 B.
- PLATE 57. *a.* G 4140, Slab-stela of Princess Merytyetes.
b. G 4240, Tablet from *ka*-door of chapel of Prince Sneferuw-seneb.
- PLATE 58. *a.* G 4340, Alabaster model basins.
b. G 4640 A, Two alabaster bowls and cylindrical jar.
c. G 4240, Alabaster bowl and cylindrical jar.
d. G 4140 A, Half of two-handled hammer of white limestone.
e. G 4140 A, Alabaster model vessels.
f. G 4140 A, Copper model tools.
g. Flints from G 4240, 4440, and 4640.
- PLATE 59. *a.* G 4340 A, Pottery.
b. G 4440 A, Two-handled oil jar (type B-LIV).
c. G 4340 A, Pottery.
d. G 4240 A, Pottery.
e. G 4140 A, Wine jar, type A-II b.
f. G 4540, Pottery, model basins.
g. G 4340 A, Pottery bowls of type C-LXI d, e, and f.
h. G 4440 A, Pottery, model jars.
- PLATE 60. *a.* G 4330, East face looking SSW: 1914.
b. G 4330 A, 'Thieves' debris in chamber: 1913.
c. G 4430, Chapel, looking west: 1914.
d. G 4530, Chapel, looking north in street from point east of G 4520: 1914.
e. G 4530 A, Looking down shaft: 1914.
f. G 4530 A, Burial chamber, looking SW: 1914.
- PLATE 61. *a.* G 4630, Chapel, looking down to west: 1914.
b. G 4630 A, Portcullis slab, looking south: 1914.
c. G 4630 A, Blocking, looking south: 1914.
d. G 4630 A, Floor debris in chamber, looking NW: 1914.
e. G 4630 and G 4631, Looking NNW: 1914.
f. G 4631, *ka*-door, looking down to west: 1914.

- PLATE 62. *a.* G 4631, Tablet of *ka*-door: 1914.
b. G 4730, Street on east, looking south: 1914.
c. G 4830, Street on east, looking north: 1914.
d. G 4430 A, Mud sealing of Chephren.
e. G 4530 A, Limestone models.
f. G 4530 A, Limestone models.
g. G 4530 A, Limestone models.
- PLATE 63. *a.* G 4530 A, Limestone model vessels.
b. G 4530 A, Pottery models, basins and jars.
c. G 4630 A, Wine jar of type A-II b.
d. G 4630 A, Two-handled oil jar of type B-LIV.
e. G 4630, Basin with short tubular spout, type D XXXV a.
f. G 4630 A, Dish of type D-LXXV.
g. G 4630 A, Pottery and models.
h. G 4630 A, Model basins.
- PLATE 64. *a.* G 4631 B, Alabaster models.
b. G 4631 B, Jar of type B-LVI a.
c. G 4631 B, Neckless shoulder jar, RP, type B-LV.
d. G 4631 B, Alabaster table, type S XII b.
e. G 4631 B, Mud sealing of Weserkaf.
f. G 4631 B, Copper model tools.
g. G 4320, East face with two niches, looking west: 1937.
h. G 4420, Table scene inscribed at south end of east face: 1915.
- PLATE 65. *a.* G 4520, Chapel, looking west: 1914.
b. G 4520, Monolithic stela of Khufuw-anekh: 1914.
- PLATE 66. *a.* G 4520, East face of mastaba and chapel, looking SW: 1914.
b. G 4520, Offering-stone in front of great stela: 1915.
c. G 4520, Serdab between the two niches, looking west: 1914.
d. G 4520, Stela in west wall of vestibule, looking west: 1914.
e. G 4520, Looking down shaft to west: 1914.
f. G 4520 A, Objects in NE corner of chamber: 1914.
- PLATE 67. *a.* G 4520 A, Wooden coffin in chamber, looking NW: 1914.
b. G 4520 A, Burial in coffin, looking north.
c. G 4520, Reg. No. 14-3-4, Pair statuette of Khufuw-anekh and wife, made by son, found NE of mastaba in debris.
d. G 4520, Reg. No. 14-3-16, Pair statuette of Kap and wife, found NE of mastaba in debris.
e. Male torso and female head found in debris east of G 4522.
f. G 4620, Inscription of Kanofer on east face of SE corner of core of mastaba.
- PLATE 68. *a.* G 4620 A, Blocking of type II c (2) penetrated by thieves, looking south: 1914.
b. G 4620 A, 'Thieves' debris in chamber, looking down to south: 1914.
c. G 4720 A, Blocking of type III c (1): 1914.
d. G 4720 A, 'Thieves' debris in chamber: 1914.
e. G 4820, Chapel, looking down to NW: 1915.
f. G 4520 A (3), Alabaster model vessels: 1914.
- PLATE 69. *a.* G 4520 A, Jar of type B-LIX b: 1914.
b. G 4520 A, Two jars of type A-II b: 1914.
c. G 4520 A, Pottery model vessels: 1914.
d. G 4520 A, Alabaster head-rest: 1914.
e. G 4520 A, Copper model tools: 1914.
f. G 4620 A, Flint flakes and limestone ear: 1914.
g. G 4620, Pottery type D-XXXIX b and A-LI b: 1914.
h. G 4620 A, Two-handled oil jar, type B-LIV: 1914.

- PLATE 70. *a.* Flint flakes from G 4620 and 4720: 1914.
b. G 4720, Pottery model vessels: 1914.
c. G 4720, Neckless shoulder jar, type B-LV b (RP): 1914.
d. G 4720 A, Basin, type D-XXXVI a: 1914.
e. G 4720 A, Two basins, type D-XXXV a: 1914.
f. G 4720 A, Bent-sided bowl, type D-LXXVI b: 1914.
g. G 4310 A, Blocking of type IV b (1): 1915.
- PLATE 71. *a.* G 4310 A, Lower chamber, coffin, looking south: 1915.
b. G 4410, Street on east, looking north: 1914-15.
c. G 4410, Chapel of type (8 c), looking west: 1937.
d. G 4410, Offering-room with intruded statuettes, looking west: 1915.
e. G 4410, Statuette of *hm-k* Ne-shepses-nesuwt: 1915-16.
f. G 4410, Statuette of 'Isy-ankh: 1915-16.
- PLATE 72. *a.* G 4411, East face, looking NW: 1915.
b. Street between G 4510 and 4610, looking south: 1915.
c. Street east of G 4610, looking north: 1915.
d. G 4610 A, Blocking of type II b (1): 1915.
e. G 4610 A, 'Thieves' debris in chamber: 1915.
f. G 4710 A, Coffin in chamber, looking SW: 1914.
- PLATE 73. *a.* G 4710 A, Disturbed skeleton in coffin: 1914.
b. G 4710 A, Built canopic pit in chamber, looking SE: 1914.
c. G 4710 and area east of it, looking north: 1915.
- PLATE 74. *a.* G 4610 A, Alabaster model vessels.
b. G 4710, Tablet of Sethuw from *ka-door*: from the collection of the New York Historical Society in the Brooklyn Museum.
c. G 4710, South jamb of entrance to interior chapel.
d. G 4710, North jamb of entrance to interior chapel.
- PLATE 75. *a.* G 4710, Chapel, reliefs on west wall.
b. G 4710, Large figure of owner on west wall.

I

THE HISTORICAL RELATIONS OF THE GIZA NECROPOLIS

THE Giza Necropolis stands on a limestone plateau overlooking the Nile valley, and visible from the house-tops of Cairo, now a modern city with over a million inhabitants. In the Old Kingdom its pyramids were visible from the walls of Memphis, then the capital of Egypt, probably with a population of less than a hundred thousand. All the pyramids of the Old Kingdom, from Abu Roash on the north to Medum on the south, are to be reckoned as belonging to Memphis, but the special necropolis of Memphis is at Saqqarah, near the old capital built by Menes. As far as we now know, that necropolis began with a great private mastaba built in the reign of Menes, first king of Dyn. I, and was continued by other mastabas of Dyns. I-IV (the Archaic Cemetery). It finally merged into the field of well-known stone mastabas of Dyns. V-VI. The first royal tomb built in the Saqqarah Necropolis appears to have been the Step Pyramid, the beautiful tomb of Zoser, first king of Dyn. III. No other royal pyramids were constructed there until after Dyn. IV, when certain kings of Dyns. V and VI selected sites around the tomb of Zoser.

The tomb of Zoser was placed not in the Archaic Cemetery, but apart from it to the south on a plateau of rather bad limestone. The other kings of Dyns. III and IV whose pyramids have been identified selected sites farther away from the capital city, sometimes building close to older cemeteries and sometimes selecting entirely new sites. In most cases the quality of the stone available for quarrying and that under the projected site had some influence in the selection of the place. In addition to the quality of the rock and the existence of older cemeteries, the proximity of royal estates, the summer residence, or the birthplace of the king may have been factors in the selection of the site. The Giza Necropolis is one of these Memphite royal cemeteries, and contains the burial-places of three kings of Dyn. IV, Cheops, Chephren, and Mycerinus, who resided at Memphis.

Memphis, however, was not the first capital of united Egypt. By later tradition the kings of Dyns. I and II resided at Thinis in Upper Egypt, and near that capital, at Abydos, the tombs have been found of eight kings of Dyn. I and two of Dyn. II. The development of the royal tomb and the divergence of its form from those of contemporary private tombs has been traced in detail in *Tomb Development*. Here I give a summary list of the royal tombs from Menes to Sneferuw:

Dyn. I: at Abydos: Menes, Narmer, Zer, Zet, Wedymuw, Az-ib, Semerkhet, and Qay-a.

Dyn. II: at Abydos: Peribsen and Khasekhemuwy.

Dyn. II or III: at Zawiyet-el-Aryan: the stepped layer-mastaba.

Dyn. III: at Saqqarah: Zoser, first king of the dynasty.

at Zawiyet-el-Aryan: the unfinished pyramid, Nefer-ka-ra (?).

Immediately preceding in time the pyramid of Cheops we have three royal tombs, two of which cannot be certainly identified:

Dyns. III-IV: at Medum: a stepped layer-mastaba converted into a true pyramid and often identified with the name of Sneferuw.

at Dahshur: the Bent Pyramid, associated with private graves containing references to Sneferuw.

Dyn. IV: at Dahshur: the North Stone Pyramid, the burial-place of Sneferuw, first king of Dyn. IV.

These royal tombs show the development of the substructure from a brick-lined open pit to the type used in the pyramid of Sneferuw, and the development of the superstructure from a steep high mastaba of solid brick-work, through the stepped layer-mastaba of the same material, to a similar structure of stone, and finally to the true pyramid.

1. CHEOPS AND HIS PLACE IN THE LIST OF KINGS

The family relationship of Cheops was definitely established by the tomb of his mother, Hetep-heres I, the secret tomb found in 1925 in front of the first Giza pyramid. Cheops was a son of Sneferuw by Queen Hetep-heres I, a princess of the blood royal and therefore probably a daughter of Huni, the predecessor of Sneferuw. Thus our king was descended from the older royal line of Dyn. III. His descendants who came to the throne were his two sons Radedef and Chephren, his grandson Mycerinus, and his great-grandson Shepseskaf. The history of this family will be taken up in detail in a later chapter. For the present purpose it is sufficient to mark him as the second king of Dyn. IV, and his pyramid as one built in direct succession to the pyramid of Sneferuw at Dahshur.

2. THE PYRAMID OF CHEOPS AND ITS RELATION TO OTHER PYRAMIDS

We know that Sneferuw, the father of Cheops, was buried in the North Stone Pyramid at Dahshur. Unfortunately the inscriptions of later date found in his Valley Temple and in private tombs prove that there were two pyramids named 'Kha-Sneferuw', a southern and a northern pyramid. Ordinarily it is assumed that the pyramid at Medum is the southern pyramid of Sneferuw, but its owner is not certainly identified. The southern pyramid of Sneferuw might, however, be the Bent Pyramid at Dahshur, also not identified with the name of a king. All these three royal tombs have substructures which present a modification of the royal type of Dyn. III (RT V), with corbel-roofed chambers, and in their final form present the true pyramid type only slightly modified in the Bent Pyramid. In any case it is the North Stone Pyramid at Dahshur, the pyramid of Sneferuw, with which the pyramid of Cheops is to be compared.

The pyramid of Sneferuw is a true pyramid with a total area of about 48,400 sq. m. The Valley Temple was identified by Professor Borchardt from a decree of Pepy II found accidentally (see Borchardt, *AZ.*, XLII, p. 1, 'Ein Königserlass aus Dahshur'), but has never been excavated. A pyramid temple, an enclosing wall, the subsidiary tomb or tombs, and the causeway may be presumed but have never been excavated. I have placed the original tomb of Queen Hetep-heres I beside this pyramid and have reconstructed the burial-chamber as a single large room about 3 × 5 m. and 3-4 m. high, approached by a sloping passage or a stairway with rounded roof. The mastabas attached to this pyramid lie to the east in groups north and south of the causeway.

The substructure of the Sneferuw pyramid consists of a sloping passage descending through the masonry to the rock, a horizontal passage leading to a corbel-roofed anteroom, and then by another short passage to a second anteroom, all of which are built on an emplacement in the surface of the rock, and finally a passage high up in the south wall of the second anteroom leading to the main chamber constructed in the masonry of the pyramid. This substructure has similarities to those of the Medum pyramid and the Bent Pyramid, but is at no place sunk in the rock.

The pyramid of Cheops is also a true pyramid, but presents three periods of construction, each of which had a substructure of its own. The original substructure was approached by a sloping passage descending through the masonry of the pyramid until it reached the rock in which it continued its

sloping passage to the floor-level of the burial-chamber. Here followed a high, horizontal corridor connected by a low, horizontal passage with a very high anteroom. From the southern wall of this antechamber a passage had been cut intended to reach the main burial-chamber, but the main burial-chamber was never excavated, and this whole substructure was abandoned unfinished.

The superstructure of this substructure had reached a height of about 13 m. (Borchardt) when the design was altered, and a second burial-chamber constructed in the masonry of an enlarged superstructure at a height of about 20 m. above the base of the pyramid. This chamber was reached by a new passage sloping upwards, which, beginning in the first masonry passage near the rock, was cut through the masonry of the first superstructure and continued upwards to the level of the new chamber. There it entered a horizontal passage 38.0 m. long and reached the burial-chamber, which was constructed of white limestone with a pent roof. No coffin was found in this chamber, and whatever the material of the coffin projected, I do not believe it could have been the granite coffin finally placed in the last chamber. The last chamber was a great room of red granite with slab roof and superimposed relieving slabs also of granite. The floor of this chamber was 40.4 m. above the base of the pyramid. It was reached by the great corbel-roofed gallery which began at the top of the sloping upward passage of construction No. 2, and continued the slope of that passage upwards for 48.75 m. At the upper end it gave access to a horizontal passage with a portcullis room and entered the main chamber at the eastern end of the north wall. Borchardt reconstructed the grand gallery with a heavy wooden scaffolding which carried suspended and concealed from view the granite stoppers which were finally used to stop the sloping passage of the second construction. There is one further point to be noted. In order to permit the withdrawal of the workmen after they had lowered the granite stoppers into place in the sloping passage, a shaft had been prepared through the masonry of the pyramid which led down irregularly to the lowest passage, that of the first substructure, which it entered near the lower end. With each change in the design the original sloping corridor, leading downwards from the north, had been prolonged through the accretions of masonry until it opened in the casing of the final pyramid. After the burial, and the withdrawal of workmen, this whole sloping passage from the opening to its lower end in the rock was undoubtedly filled with great stopper blocks of limestone or granite, and the opening closed with a finely fitted casing-stone.

The original design of the substructure of the Cheops pyramid introduces a new type of royal substructure. This differs essentially from the old royal type V used for the Step Pyramid of Saqqarah and the unfinished pyramid of Zawiyet-el-Aryan and, in a modified form, for the pyramids of Medum and Dahshur. The entrance passage was a long, sloping corridor excavated in the rock, a tunnel, not an open trench, and the burial-chamber was excavated in the rock, lined or unlined, not built in an open pit. This type of substructure was used not only in the original design of the Cheops pyramid, but also in that of the three small pyramids of his queens, in the original design of the Chephren pyramid, and in the small pyramid of his queen, in both designs of the Mycerinus substructure, and in the three small pyramids of his queens. The small Cheops pyramid G I-a gives a clear idea of the manner of preparation of this type of substructure. Its substructure was first begun 28.15 m. east of the present substructure, and this unfinished cutting proves that the descending passage in the rock was being cut out and the floor of the passage being constructed above the rock simultaneously. The site of this pyramid was shifted westwards to avoid contact with the secret tomb of Hetep-heres I, and the finished pyramid shows that when the substructure was completed the part above the rock formed a nucleus of masonry which carried the sloping passage out to the face of the core. Over and around this nucleus of masonry the pyramid itself was built and cased. The core structures of all the Giza pyramids were apparently

built in stages with nearly vertical faces in the manner illustrated by the two small unfinished pyramids G III-b and III-c.

The pyramid of Radedef at Abu Roash does not follow the Cheops type, but reverts to the old simple open-pit and trench form (type V). The same type was followed in the tomb of Shepseskaf, the last legitimate king of the dynasty (see Jéquier, *Le Mastabat Faraoun*). The Mastabat el Faraon was not of true pyramidal form, but built in the form of the *qrst* coffin.

The second and third designs of the Cheops pyramid were of special forms forced on the builders by the changes in the plan. They may be reckoned, however, as modifications of type RT V as represented by the three pyramids at Medum and Dahshur. The second design of the Chephren pyramid approximates more closely to the modified type, although its horizontal passage is in a tunnel in the rock. Mycerinus followed the new type introduced by Cheops. Radedef and Shepseskaf reverted to the old type RT V. The order of these pyramids is now fixed beyond doubt, and it is clear that as a group they are in logical succession to the older pyramids and layer-mastabas, both in superstructure and in substructure. The Giza group may be characterized structurally by the use of much larger blocks of limestone and the introduction of hard stone, chiefly granite, in the burial-chambers and in the casing of the temple walls, and to some extent in the pyramids themselves.

3. THE DEVELOPMENT OF THE PRIVATE MASTABA IN THE REIGN OF CHEOPS

a. The Stage Reached by the Crude-brick Mastaba at the Accession of Cheops

When Cheops came to the throne and had begun to build his pyramid and the field of mastabas west of that pyramid, the c.b. mastaba was still the prevailing type. It had nearly vertical faces and took two closely related forms given by the offering-places. One of these forms had two plain compound niches on the valley side, of which the southern, the chief niche, was the larger. The other had the chief niche withdrawn within the mastaba to form an interior chapel of cruciform type. The cruciform chapel generally had the entrance doorway in the middle, directly opposite the chief offering-niche, and its west wall represented a section of the façade of the mastaba, or in other words the chief southern niche. During the reign of Sneferuw the cruciform chapel was of two types, the true cruciform chapel with a plain compound niche, in the middle of the western wall, and the cruciform chapel of palace-façade type with a single section of palace-façade panelling on the west wall. Probably in the early part of the reign of Cheops both these chapels had already appeared in the later derived form which I call 'the modified cruciform chapel', characterized by the shallowness of the niche-work on the western wall. The faces of these mastabas were in some cases provided with additional *ka*-doors, palace-façade or simplified panelling on the façade or on all four sides. Almost all of them also had exterior chapels of several different forms, generally roofed (see *Tomb Development*, Chapter X).

It is of importance to note that the c.b. mastaba presented two types of construction: (1) the c.b. filled mastaba consisting of a retaining wall filled with gravel or rubble, and (2) the solid mastaba built entirely of c.b. In both forms the niches and the interior chapels were constructed in the brick-work by methods of bonding long practised by the masons. In the reign of Cheops himself, or not long before, the construction of the interior chapel was modified in order to facilitate the use of stone lining, to be afterwards carved in relief. This modification consisted in leaving a deep rectangular recess in the brick-work of the mastaba and constructing the cruciform chapel in this recess.

By the accession of Cheops the substructure of the mastaba presented only the shaft type, a rectangular shaft, usually square, descending with cased sides through the mastaba and deep into the

rock to a single rock-cut chamber underground. This shaft type presented, however, several variations: (1) chamber and shaft constructed in a large open pit, (2) chamber built of stone in a cavity in the rock and roofed with stone corbel or stone slabs, and (3) with a chamber merely hollowed in the rock.

b. Evidence of Stone Mastabas Previous to Cheops

The earliest private mastabas of stone which are clearly recorded and certainly fixed in date are those built in the great cemetery west of the Cheops pyramid, and undoubtedly constructed during the building of that pyramid. No stone mastabas which can be dated previous to the reign of Cheops have been found in the Archaic Cemetery at Saqqarah. Nevertheless, there is some evidence of earlier mastabas of stone. De Morgan in *Dahshur*, I, p. 8, reports a group of stone mastabas in the northern end of the group of tombs which lie north of the causeway of the Sneferuw pyramid, but whether these are cores or mastabas he does not inform us and their date is entirely problematical.¹ Much more important is a group of small tombs excavated by M. Montet at Abu Roash on the hill east of that on which stands the pyramid of Radedef. On a visit in the company of Professor Foucart to the excavations being conducted by M. Bisson de la Roque in that cemetery, a number of small tombs were pointed out which were said to be of Dyn. I. The substructures were rectangular open pits cut in the rock and unlined, and two of them had a rock-cut chamber hollowed in the west wall at the north end. This is a type which closely resembles in form the old type I B as used in large mastabas of Dyn. I at Saqqarah. Without any information as to the contents, it seemed to me then that the graves were a larger form of the open-pit graves of Dyn. II of Zawiyet-el-Aryan, with the addition of a small rock-cut magazine, but they can hardly be dated later than Dyn. II. These small tombs were surmounted by low walls of small yellow limestone blocks preserved only to the height of one or two courses. There was no offering-niche visible, nor at the time of my visit any trace of the chapel. Thus these early stone mastabas appear not to have differed in outward appearance from the earliest of the much larger stone mastabas erected by Cheops. The cemetery begun by these primitive stone mastabas continued westwards and northwards, then eastwards and northwards through the area excavated by Bisson de la Roque, and the whole appears to form the cemetery of one rather small community from the time of the early stone mastabas to Dyn. VI.

At Memphis the quarrying of stone was well advanced in the second part of Dyn. I (see *Tomb Development*, p. 122), and the tombs of that period had substructures excavated in the rock. In Dyn. II the Memphite Necropolis workers introduced the deep underground stairway with chambers excavated in the rock. The simple superstructures of the Abu Roash tombs were certainly within the technical skill of the masons at any time from the second half of Dyn. I to the accession of Cheops. The fact that the contemporary mastabas at Saqqarah were of c.b. may perhaps be due to the availability of deposits of Nile mud larger and more easily obtainable than at Abu Roash. The use of stone for superstructures is certified by the Palermo Stone for royal constructions previous to the end of Dyn. II, and the layer-stepped mastaba (pyramid) of Zawiyet-el-Aryan is perhaps an example of such a building. The Step Pyramid at Saqqarah, the tomb of Zoser with its enclosure, presents the translation into limestone of the older mud-brick architecture of Dyns. I-II. Their walls were constructed of small blocks, much after the manner of the bonding of the earlier brick-work, and masses of core-work, solid in the pyramid itself and built of rubble in the subsidiary tombs, were cased with fine white limestone. Yet the superstructures of the private mastabas continued to be built exclusively of c.b.

¹ A field of mastabas in regularly laid-out lines and rows is visible SE of the Sneferuw pyramid at Dahshur, but at present the material, type, and date have not yet been determined.

down to the accession of Cheops, and frequently even after the introduction of the stone mastabas. The increased use of stone as accessory to the brick-work in the c.b. mastabas of Dyn. III and the reign of Sneferuw was based on the desire to utilize the sculptor's craft to improve the functional value of the *ka*-door and can hardly be cited as evidence of a gradual change in the material and construction of the mastaba itself.

c. Introduction of the Stone Mastaba by Cheops

Whatever may have happened previously, Cheops built west of his pyramid at least three groups of stone mastabas, and later one group east of his pyramid. This cemetery of stone mastabas was increased by additions which covered the rest of the Old Kingdom down to the end of Dyn. VI, and present a clear line of development from the early mastaba-cores to the characteristic forms of Dyn. VI, which will be set forth in detail in a later chapter. As far as our evidence now goes, no other stone mastabas were built anywhere previous to the end of the reign of Cheops, and none in the Old Kingdom except in the neighbourhood of Memphis, Giza, Saqqarah, Dahshur, Abu Roash, and Heliopolis.

The earliest stone mastabas built by Cheops consisted of a stone retaining wall filled with stone, gravel, and rubbish, or in better examples filled with solid masonry of small blocks set in plaster. In this regard they followed the c.b. mastaba, which was also either filled with rubbish or built of solid brick-work. The c.b. mastaba down to this time had had nearly vertical faces, and the slight regression of the courses to form an inclination of 5 degrees or less was covered by the thick layer of mud-plaster which coated the face. The bonding of the brick-work and the use of mud-plaster in laying the bricks produced a stable facing-wall of considerable strength. The earliest stone mastabas were built of small stones in correspondingly low courses, each of which had a nearly vertical face. If this retaining wall had been built with the slight regression of the courses of brick-work, it could not have borne the pressure of the filling and would most certainly have collapsed. For this reason the stone courses were set back each from the face of the course below 5–12 cm., generally proportioned to the size and height of the mastaba. The resulting stepped wall, which in the known examples has often decayed but never given way, had an inclination of 15 degrees or over, and gives us the origin of the mastaba slope of Dyns. IV–VI. The majority of these early stone mastabas were used uncased, with an exterior c.b. chapel of one or more rooms, built against the southern part of the eastern face. The stone retaining wall had no offering-niche nor any recess constructed in its masonry, and the only offering-niche was a simple recess in the western wall of the inner room of the exterior chapel, in which the stepped face of the mastaba was exposed with a beautifully carved slab-stela (tablet stone) set in an emplacement in the masonry. Some of them, however, had been cased in fine white limestone, the sloping surfaces of which showed an even greater angle of inclination than the core. The cased small-stepped cores had, or were designed to have, two plain compound niches of ordinary *ka*-door form, with an exterior stone chapel around the southern or chief niche. It was in these examples that the two-niche form of the c.b. mastaba with exterior chapel first appears in the stone mastaba. These niches were cut, as a rule, in the thickened casing wall and for some time not constructed after the manner of the brick-work.

The small-stepped core was succeeded very quickly by the massive stone core in which the retaining wall was built of great rough blocks of nummulitic limestone in stepped courses in which the width of the steps was increased. Four of the older stepped cores were enlarged by blocks of masonry of the new massive type, and in their new form had been wholly or partially cased in white stone with interior white stone chapels. In general, however, the massive-type core, like the small-stepped core, showed no niches or recesses for an interior chapel. Two of the new cores had been faced with small-stepped

masonry and looked externally exactly like the older cores. The cores of the new type were treated like the small-stepped cores, used uncased with exterior c.b. chapels and slab-stelae, or cased in white limestone with two compound niches and an exterior stone chapel around the southern niche. Later, still in the reign of Cheops, and in the reign of Chephren, the massive core was constructed with a chapel recess at the southern end of the eastern face and cased in fine white limestone with an interior chapel of the same material. It was from this latter form that the later stone mastabas at Giza were developed.

The early stone mastabas and the great majority of those built by Cheops had only one burial-shaft with a major and a minor offering-place. This had been the practice from the earliest times, modified only by the introduction in Dyn. III of the twin-mastaba with two burial-places and two sets of offering-niches. The burial-place used in the early Cheops mastabas was of the shaft-and-chamber type introduced in the reign of Sneferuw. In other words, the burial-places of the early stone mastabas are in type and even in their variations entirely in harmony with the burial-places of the c.b. mastaba of the preceding reign.

Functionally the stone mastaba continued on the lines of the c.b. mastaba with burial-place and offering-place structurally separate. The long proportions of the older mastaba were maintained although quite unnecessarily after the disuse of the long stairway. Even the two kinds of structure, the filled and the solid, appear in mastabas of both materials. The exterior c.b. chapel used with so many of these early mastabas was not a new form except that the rooms were roofed with leaning-course c.b. vaults. Yet the new stone mastaba appears to introduce a new type, characterized by the absence of any niche in the façade of the mastaba, and the abandonment, for a time at least, of the interior chapel.

The absence of *ka*-doors in the early cores constructed by Cheops may be interpreted as due to the fact that they were intended to be cased. It seems certain that the massive cores were intended to be faced or cased. The early cores with retaining walls of small-stepped courses and the massive cores faced in the same way presented, however, a finished appearance, and the absence of niches may be ascribed to the difficulty of constructing a *ka*-door in stepped masonry. This difficulty was solved later in Dyn. IV by the insertion of a monolithic framed *ka*-door in the face of the stepped masonry. All cores with stepped faces, and the massive cores as well which were used uncased, were conceived as two-niched mastabas, as is shown by the position of the slab-stela near the southern end of the eastern façade. Those cores which were cased with white limestone had two niches in the casing or an interior chapel and a subsidiary northern niche.

The mastabas themselves, or mastaba cores, are really cheap constructions, quite as cheap as would have been c.b. mastabas of the same size. The use of stone was facilitated by the great quarrying operations of the king, which probably produced an abundance of small blocks not needed for the king's tomb. In any case, the quarrymen of Cheops could have produced the stone of a stepped mastaba quite as cheaply as the brick-makers could have provided an equivalent amount of c.b. Even the large blocks used in the massive cores would have meant no great cost to the quarrymen, and once the handling of large blocks had been acquired, the construction of the massive cores was probably not materially more costly than that of the small stone cores. It is to be noted that in a majority of the early cores the place of the offering-niche was marked by a finely carved slab-stela, fixed in the retaining wall. These slab-stelae bear the table scene with titles and name of the owner, and offering-lists which are characteristic of the tablet of the ordinary *ka*-door and related to the primitive niche-stones. In fact I take them to be intermediate in the development between the primitive niche-stones and the tablets of the stone *ka*-door of traditional form. In those cores which were finished with an exterior c.b. chapel, the slab-stela

is left visible in a plain niche constructed in the west wall of the c.b. chapel. In the stone-cased mastabas (three examples), and those with additions containing an interior chapel (four examples), the slab-stela was left in place, and in one case (G 1201) was covered with a slab of limestone to protect it from damage during the reconstruction. The slab-stelae are obviously the work of the finest craftsmen and were, no doubt, presented by the king and affixed to the mastabas as marks of their assignment by him. So I come to the conclusion that these early stone mastabas were originally intended to be used as built with exterior c.b. chapels, and that the casing of these cores was a modification of the original idea.

I attribute the absence of niches in the body of the mastaba to ineptitude on the part of the masons attempting to reproduce an old form in a new material. The abandonment of the interior chapel, developed so fully in the c.b. mastabas of Saqqarah, may be attributed to the same cause. It has been shown in *Tomb Development* that the interior cruciform chapel amounted to a withdrawal of the chief niche within the mass of the c.b. mastaba in order, originally, to protect the painted decoration of the niche. This withdrawal, which first appears in the reign of Khasekhemuwy, was only a practical device which made no alteration in the function of the niche itself. Nor were all mastabas between Khasekhemuwy and Cheops so constructed, for a large number were still of the ordinary two-niche type with exterior chapels of various forms, usually roofed but sometimes open to the sky. The roofed exterior chapel was quite as early as the interior chapel and served the same purpose. With these antecedents the stone mastaba might have been expected to have from the beginning either an exterior chapel or an interior chapel. The fact that the Giza masons selected the exterior chapel, quite apart from the ineptitude of the masons, seems to indicate a break with the traditional forms of Saqqarah, and the existence of such a break is supported by the form of interior chapel introduced in the latter part of the reign of Cheops.

The older interior chapel, the cruciform chapel, amounted to a withdrawal of the chief niche within the mastaba, and its most characteristic feature is the niche in the middle of the west wall directly opposite the entrance doorway and thus visible from outside the chapel. This type of chapel, invented at Saqqarah and found in scattered examples all through Egypt, continued in use chiefly at Saqqarah in a modified form into Dyn. VI. In an altered form the cruciform type was used in the outer sanctuary of the Mycerinus Pyramid Temple, in the Valley Temple, and in the temple of the small pyramid G III-a. The exterior and interior stone chapels of the reign of Cheops were of an essentially different form, which I call the L-shaped chapel. This form has the entrance at one end, usually the north end, of the eastern wall, and the single offering-niche at the other end, usually the south end, of the west wall. Thus the offering-niche is not visible from the outside. In the later two-niche chapel the only difference was that the secondary northern niche was visible from the doorway. The exterior stone chapels of the early Cheops mastabas were of this L-shaped type, and the interior chapels seem to amount to the withdrawal of the exterior L-shaped chapel within the mass of the mastaba.

The masons of Cheops were not the first to use the L-shaped offering-chapel. The chapels of the subsidiary tombs of the Zoser enceinte had offering-rooms of this form which were in fact interior chapels. Some of them had an anteroom which also blocked the view from the outside by having the entrance in one end of the external wall and the doorway into the inner room at the opposite end of the interior wall. This type of bent entrance was also used in the two anterooms of the pyramid temple of Medum, which is an exterior chapel. The earliest of all known chapels, the small exterior chapels found by Sir Flinders Petrie at Tarkhan, partook also of the character of the L-shaped chapel, but with bent entrance of different type. These were open-air chapels, and almost all the open-air chapels of Dyns. I and II had the entrance so placed as to prevent a direct view of the chief offering-place from the

outside. The roofed exterior chapels of the reign of Khasekhemuwy and Dyn. III also present this same principle of bent entrance. It is therefore only natural that the c.b. chapels of the early stone mastabas of Cheops followed this principle in the inner offering-room. These c.b. chapels were multiple-roomed chapels and present various ground-plans suited to the space available. The early exterior stone chapels reproduced the bent entrance in a more rigid form, the same L-shaped form used in the first interior chapels.

The interior L-shaped chapel was introduced near the end of the reign of Cheops in core-work of the massive type. At Saqqarah, when the stone-lined cruciform chapel was introduced, the general method adopted was to leave a rectangular recess in the masonry of the mastaba and to build in this recess the stone walls backed with c.b. masonry. Some of these chapels I have dated to the reign of Cheops himself, but it is probable that most of them are earlier than the interior stone chapels at Giza. The massive cores were constructed without any chapel-recess down to the last five years of the reign, and in those afterwards provided with interior chapels the chapel-recess was a reconstruction made by breaking away the massive retaining wall for the desired length, and rebuilding it in recess form (see Cem. G 7000, the eight twin-mastabas). In one case, G 2130, an interior chapel was inserted in a solid core of small-stepped masonry by breaking a hole in the masonry without the construction of a recess. There are five other mastabas, all of the small-stepped type, which had received additions of massive core-work in which space had been left for an interior chapel. Thereafter a number of large cores were built with chapel-recesses in the original structure. All the cores built by Cheops probably from the introduction of the massive core were obviously intended to be cased in fine white limestone.

All the mastaba cores erected by Cheops down to the latter part of his reign, whether cased or uncased, had been designed for exterior chapels. These exterior chapels afforded an adequate protection against the weather, and the stone chapels can be reckoned as permanent structures to be damaged only by the wilful removal of stone. Apparently the interior chapel was first introduced in the four finished twin-mastabas in Cem. G 7000 which belonged to the most favoured children of Cheops. These chapels seem to have been planned with exterior stone rooms, and it is possible that the offering-room was built inside the mastaba to gain space in the street for the very elaborate exterior chapel. On the other hand, it may be that the introduction of the interior L-shaped chapel was merely a reversion to the older interior chapel which had been in use since the reign of Khasekhemuwy.

In conclusion, the stone mastaba introduced by Cheops followed in general form and structure the c.b. mastabas of the reign of Sneferuw. The builders did not, however, follow in detail the forms worked out by the brick-masons, but were forced by the new material to a modification of the older mastaba, the omission of offering-niches or chapel-recesses in the retaining wall. As the structure of the mastaba was improved by white stone casing, the forms of the c.b. mastaba reappeared, the two-niche form with exterior chapel and the form with interior chapel and subsidiary northern niche. In the form of the offering-room the stone mastabas at Giza broke with the old cruciform chapel of Dyn. III and Sneferuw, and reverted to an older type, the L-shaped chapel of the Zoser enceinte.

II

THE TOPOGRAPHY OF THE GIZA NECROPOLIS

THE Giza Necropolis lies on a promontory of nummulitic limestone bounded on the south by a sandy *wady* which descends south of the Third Pyramid, and on the north by a large *wady* on which the northern face of the rock plateau abuts in several steeply terraced cliffs. This promontory was greatly altered by the quarrying and the constructions carried out in the Old Kingdom, and its original form can only be visualized with some difficulty. The general layout of the necropolis centres on the three pyramids and in particular on the first, the pyramid of Cheops. The order of the kings, Cheops, Chephren, and Mycerinus, is certainly established and forms the basis of the chronology of the whole necropolis situated on the rock promontory. The pyramids of these kings were built in the following order:

1. The First Pyramid, the pyramid of Cheops: pyramid temple, causeway and corridor, Valley Temple (unexcavated), and the three small pyramids of his queens.
2. The Second Pyramid, the pyramid of Chephren: pyramid temple, causeway and corridor, Valley Temple, the Great Sphinx, and one small pyramid belonging to a queen.
3. The Third Pyramid, the pyramid of Mycerinus: pyramid temple, causeway and corridor, Valley Temple, and three small pyramids of his queens.

The three pyramids lie in a roughly diagonal line running from NE to SW in the order named. The Cheops pyramid occupies the primary site on the NE quarter of the promontory, and even if we knew nothing of the order of these kings this pyramid would be selected as the first which was built in the necropolis. The pyramid of Chephren is on the next most desirable point which remained after the excavation of the Cheops quarry. After the completion of the Chephren pyramid the only available forward site was that of the Mycerinus pyramid. Although the ground behind the Second Pyramid is higher and better, it would not have permitted easily the construction of a causeway and a Valley Temple, and a pyramid on that site would have been obscured by the Second Pyramid.

The fields of mastabas and other tombs are grouped about these three clearly dated royal tombs, but chiefly about the First Pyramid. West of the Cheops pyramid lies the greatest group of mastabas of the whole site, called herein the 'Western Field'. On the east the 'Eastern Field' contains fewer mastabas, but these include the tombs of the most important members of the family of Cheops. Along the eastern face of the promontory are a large number of rock-cut tombs of Dyns. V-VI. South of the pyramid runs a line of about twelve mastabas (Cem. G I S). These fields associated with the pyramid of Cheops contain the majority of the private tombs in the necropolis. South-east of the Second Pyramid, a number of rock-cut tombs and mastabas are situated in the old Cheops-Chephren quarry. South-east also of the Third Pyramid, the Mycerinus quarry has been similarly occupied by a large rock-cut tomb and a number of mastabas which extend up the northern terraces of the quarry and over the rock above.

I. THE RECONSTRUCTION OF THE ROCK PROMONTORY

The remains of the original rock surface show that before Cheops built the first Giza pyramid the site was a great dome of weathered rock, nummulitic limestone consisting of beds of different quality. The greater part was hard grey stone, but towards the south was a bed of softer yellow-drab stone such

as may still be seen in the modern quarry south of the Mycerinus Valley Temple. This dome of rock was eroded into a valley on the south, the same valley (*wady*) which descends south of the Third Pyramid and separates the fourth-dynasty site from the older site in which are tombs of Dyns. II and III. The northern side of the dome was terraced by erosion. The lowest terrace was bounded on the north by the great *wady* which enters the black land north of Mena House Hotel. But on the south of the hotel a minor *wady* descends from the top of the first or lower terrace to the level of the valley. The highest point of the upper terrace, that of the whole dome of the rock, lies about 150 metres west of Harvard Camp with an outlook northwards over the lower terrace and the great northern *wady*. The line of highest elevation descends very gradually, not in a straight line, to a point near the NW corner of the Second Pyramid and then NE across the site of the First Pyramid, and finally eastwards it slopes first very gently, and then in an increasingly steep curve to the valley. South of the First Pyramid the surface sloped southwards and south-eastwards to the *wady* south of the Third Pyramid. An approximate idea of the original mass of rock lying south of the First Pyramid and east of the Second may be formed if we take the base line of the emplacement of the First Pyramid, the level of the rock behind the Second Pyramid, a point somewhat higher than the head of the Great Sphinx, and another above the rock knoll on which stands the mastaba of Queen Khent-kauws, on the edge of the southern *wady*, and conceive of the old curving surface of the rock dome as passing through these points. The surface of the lower terrace on the northern side of the dome ascends slightly from the west to the site of the mastaba of Hemyuwen (G 4000) and descends eastwards, merging into the upper terrace just behind the First Pyramid. Considerable faults and cracks in the bed-rock crossed the dome generally in a SE-NW direction. One larger fault visible west of the First Pyramid has resulted in a drop in the surface of the rock on its north side.

2. ALTERATION OF ROCK PROMONTORY BY QUARRIES

The great dome as thus reconstructed shows now considerable alterations caused by ancient quarries. Just north of the First Pyramid the edge of the rock platform can be followed roughly and appears to have been quarried back, but the scarp is now covered with a mass of masons' debris thrown out when the pyramid enceinte was cleaned up after the construction of the First Pyramid. Following the edge of the cliff around to the east, an indeterminable amount of stone has been quarried away, and the face of the rock scarp taken by rock-cut tombs, generally of Dyns. V-VI. Directly in front of the pyramid, from near the northern small pyramid of a queen to the edge of the cliff, runs a quarry which has been partly filled up with the masonry foundations of the Cheops causeway, and partly occupied by mastabas (G 7810 and 7820) and the tombs of funerary priests of Dyns. V-VI. South of the First Pyramid and east of the Second, the dome has been quarried away except for the knoll from which the Great Sphinx was carved, and that which was converted into the mastaba of Queen Khent-kauws. The quarry as now excavated by Professor Selim Bey Hassan has a long irregular N-S ridge along its eastern side and rises on the west in terraces to the rock cliff in which are the tombs of Nekauwra and other members of the family of Chephren. The platform of the Second Pyramid has been quarried out to the west and north, and on the NE quarter built up with massive stones, perhaps those quarried to the west and north. North of the Chephren pyramid quarry a wall of rock runs east and west, the southern face of which limits the old Chephren quarry. The northern face also shows quarry cuts. The quarry thus indicated extends northwards, but its northern part is concealed beneath the great wall of massive stones which separated the great 'Western Field' from the Chephren enceinte and the dam of rubbish which was piled anciently along the south side of this wall. North of the wall is another large quarry, examined by

Signor Schiaparelli. Farther west the edge of the upper terrace is lined with quarry faces, and with the piles of quarry or surface debris thrown back from these cuttings.

South of the Second Pyramid, the rock surface extends southwards to an E-W line about opposite the rock-cut tomb of Minyuwen (Lepsius G 92). The face of this rock on the south is obscured by dump-heaps of debris deposited probably when the area around the Second Pyramid was cleaned up after the construction of that pyramid.

It would require the removal of an enormous mass of debris to ascertain the exact extent of the quarries around the pyramid.

South of the First Pyramid and south of the line of mastabas along the south side of the First Pyramid, the ground near the causeway of the Second Pyramid is also obscured by dump-heaps from the pyramid works.

West of the Second Pyramid is a large enclosure containing a row of rooms like workshops or workmen's barracks. West of the Third Pyramid is a similar enclosure which appears to contain only a few workshops. Immediately SE of the Third Pyramid is a quarry which was undoubtedly used by Mycerinus.

The important matter for the chronology apart from the order of the pyramid-enceintes of the three kings is the order in time of the various quarries. As far as the evidence permits, the order appears to be for a part of the quarries as follows:

1. For the cores of the First Pyramid and its accessory tombs: the quarries around the northern and eastern edges of the main promontory; the quarry on top of the promontory east of the pyramid; a considerable part of the quarry south of the First Pyramid; the quarry north of the Second Pyramid, separated from the Chephren excavation by a rock wall and crossed by the massive N-S wall which bounds the Western Field on the south.
2. For the core of the Second Pyramid and its accessory cores: the southern part of the quarry south of the First Pyramid, the great rock excavation in which stands the Second Pyramid; and probably some smaller quarries south of the Second Pyramid and along the edge of the upper terrace of the promontory.
3. For the Third Pyramid cores: the quarry SE of that pyramid; and probably continuation of some of the Chephren quarries.

It is possible that a certain amount of stone was also taken from the rock knoll south of the Valley Temple of Mycerinus. A good deal of stone used in the private mastabas of Dyns. V and VI was taken from older structures.

3. THE FIELDS OF TOMBS IN THE GIZA NECROPOLIS

Around and among these quarries and pyramids lie the five fields of tombs belonging to members of the family and the court of Cheops, Chephren, and Mycerinus. These five fields in order of their origin are as follows:

1. The Western Mastaba Field, begun early in the reign of Cheops and continued to the end of the Old Kingdom.
2. The Eastern Field, begun late in the reign of Cheops and continued partly by mastabas and partly by rock-cut tombs to the end of the Old Kingdom.
3. The small cemetery south of the First Pyramid, begun in the reign of Chephren or Mycerinus and continued into Dyn. VI: perhaps a prolongation of the Eastern Field.

4. The mastabas and rock-cut tombs in the old Cheops-Chephren quarry, east and SE of the Second Pyramid.
5. The cemetery of rock-cut tombs and mastabas in the Mycerinus quarry and on its northern edge.

a. The Western Field

The Western Field of mastabas is bounded on the east by the rubble enclosing wall of the enceinte of the Cheops pyramid and on the south by a massive E-W wall built across the old quarry north of the Second Pyramid. It is situated on the lower terrace of the western part of the rock promontory. It consists of four blocks of stone mastabas or mastaba-cores arranged in ordered lines with avenues and streets, and a large number of later stone mastabas irregularly placed in the streets and avenues and in the spaces between the blocks.

The northern side of the main ridge from its highest point west of Harvard Camp is a well-marked cliff about 200 m. long, overlooking the broadest part of the lower terrace. From this point eastwards it has been altered by small quarries which, like the quarry north of the Chephren pyramid, obscure the old connexion between the main ridge and the lower terrace. Apparently the upper cliff continued eastwards, falling gently to a point near the western side of the First Pyramid. Now there appears to be sloping ground between the main ridge west of the Second Pyramid and the lower terrace itself, and later mastabas have been constructed on this slope. The highest point of the lower terrace lies a little NE of this sloping ground (site of the mastaba of Hemyuwen), from which point it slopes eastwards to the plateau on which stands the First Pyramid, northwards to the top of the lower cliff, and westwards to the southward prolongation of the great northern *wady*. This terrace is crossed from ESE to WNW by several faults, one of which has caused the depression of the northern part of the terrace by 1-2 m. Along the eastern edge of the field where it enters the area quarried away along the western side of the First Pyramid, the Western Field has been artificially raised by a rubble retaining wall filled in behind with limestone debris.

(1) *The Four Nucleus Cemeteries and G 2000*

The four nucleus cemeteries on the lower terrace of the Western Field taken in numerical order are as follows:

1. Cem. G 1200: situated on the northern part of the terrace about 100 m. NW of the tomb of Hemyuwen and 175 m. west of Cem. G 2100; 10 stepped small-course mastabas in 3 E-W rows.
2. A large isolated mastaba, G 2000, about 50 m. north of the Hemyuwen mastaba, and about half-way between Cem. G 1200 and Cem. G 2100.
3. Cem. G 2100: situated on the northern part of the terrace about 185 m. east of Cem. G 1200 and north of Cem. G 4000; 11 stepped small-course mastabas: in 2 groups, 5 on west and 6 on east.
4. Cem. G 4000: situated directly east of the Hemyuwen mastaba, which it includes; 42 mastabas in 6 E-W rows; 5 small-stepped mastabas with solid cores, 2 massive cores faced with small-stepped masonry, 34 massive cores and 1 filled small-stepped core; the 3 northern rows adjoining the Hemyuwen mastaba have 8 mastabas each (8 N-S lines); the 3 southern rows show only 6 lines, as lines 1 and 2 were omitted because of the Schiaparelli quarry, and the eastern core in row 1 appears never to have been built.
5. The Cem. en Échelon: adjoining Cem. G 2100 and Cem. G 4000 on the east; 3 N-S lines of filled small-stepped cores interrupted near the middle by a great fault; 25 cores, 9 in each of the 2 western rows and 7 in the eastern row.

The mastaba cores of these four cemeteries and the isolated tomb G 2000 were obviously built on primary sites and all other mastabas were added later. The chronology of the Western Field must therefore be based on these 89 cores, erected in blocks on primary sites.

The problems presented are:

1. The determination of the order in time of the commencement of these four blocks of cores and their relation to G 2000.
2. The order of construction of the mastabas composing each block.
3. The date of the use of the cores as finished mastabas.

The examination of these problems will be taken up in Chapter IV, but for the present purpose it is to be noted that the use of these cores as burial-places extends from the reign of Cheops into Dyn. V.

(2) *The Mastabas Secondary to the Blocks of Nucleus Cores*

Each mastaba in the four nucleus cemeteries became the nucleus of a small group of later tombs built in the streets north, east, and south of it, usually abutting on the nucleus mastaba. These later mastabas were used either for members of the family of the owner of the nucleus mastaba or for his *ka*-priests. The *ka*-priests were sometimes but not always members of the family of the chief person.

These street cemeteries, subordinate to the nucleus mastaba, left large spaces unoccupied east, west, and north of the four cemeteries and in three large spaces: (1) between Cem. G 1200 and G 2000, (2) between G 2000 and Cem. G 2100, and (3) the space between the western end of G 4000 and the two spaces already mentioned. All these spaces among and around the four original cemeteries appear to be occupied with one great cemetery which had grown around various tombs on independent sites and by interspersions, mainly during Dyns. V and VI.

The chronology of this secondary cemetery requires a very careful analysis based on an examination of the groups of tombs and their individual members. As an example of the problem I mention here two of these groups of the secondary cemetery. In the NE corner of the Western Field stands the Senezem-ib complex, built around the large mastaba of Senezem-ib = Yenty and comprising the mastabas of three generations of his descendants. Against the eastern face of the complex is a row of later small mastabas obviously belonging to this family group. The other notable group lies SW of the Hemyuwen mastaba, just west of the Schiaparelli quarry. It began with the tomb of Shepseskaf-ankh and contains the mastabas of his son and son-in-law and his grandson. This group is the centre of a large number of small mastabas which appear to be related to it. The general problem is to fix the mastabas on independent sites and work out the relation to them of the surrounding mastabas. The order of the mastabas on independent sites is to be determined partly from the relative positions and partly from the datable material presented by the groups centred on them. The details of this analysis must be reserved for a special chapter.

(3) *Ancient Pillaging, Sanding-up of the Cemetery, and Intrusive Burials*

I have already remarked that some of the later mastabas erected in the Western Field were built of stone taken from earlier mastabas. A few of the mastabas denuded by the theft of stone have been overbuilt by other mastabas now less denuded. I mention in particular G 1024. The theft of stone for building, including the burning for lime, has continued down to the beginning of the present century, but after the sanding-up of the cemetery the stone removed was almost exclusively the fine white limestone of casings and chapels.

The pillage of the burial-chambers began probably soon after the burial. A systematic and open plundering was carried out when the streets were only slightly encumbered with drift sand. The street

beside every large mastaba, usually at the back behind the chief burial-pit, had a sloping dump where the filling of the pit had been thrown out by the pillagers, and this dump usually rested on a comparatively slight layer of drift sand (50 to 100 cm.). These pillagers either knew or more probably were able to mark down by surface signs every large pit. Only two or three of the larger burial-chambers have escaped plundering, but left untouched were hundreds of small pits which, at that time, must have been visible, probably because it was known from experience that such shafts contained nothing of value.

The sand blows into the cemetery from SW and west, rarely from the north, but once in the cemetery it is driven southwards by the frequent north winds. Sand tends to blow in and out again, unless it is moving in dunes, and there are no dunes in the neighbourhood of the necropolis. But if there are pockets or obstructions in its path, the ordinary wind-blown sand tends to collect or bank up. In the Western Field the sanding-up appears to have made serious progress soon after the Old Kingdom. At that time the crowding of the cemetery had left only narrow passages between the mastabas, and many of these passages had been blocked by small late tombs, and by the debris thrown out by the pillagers from the burial-shafts. In addition the whole southern side of the cemetery was blocked by the great massive wall which bounded the cemetery on that side, by the rubble construction west of the Second Pyramid, and by the partially quarried cliff westward of these constructions. On the east the outlet of the sand was partially stopped by the Great Pyramid and its rubble enclosing wall. It is to be noted that the eastern edge of the cemetery north of the pyramid was almost free of sand. I judge that the wind-blown sand began invading the cemetery from the west. As the obstructions of street after street were covered, free passage was opened between the large mastabas and the sand blown through these passages filled up the streets and the pockets eastwards up to the eastern edge of the cemetery.

When we began the excavation of the cemetery it was so completely sanded up that only the tops of the large mastabas were showing. About a metre under the present surface we came on a number of offering-places built on sand which covered burials intruded in the old superstructures. The usual procedure in making these intrusions was to clear the sand from the roof of an old offering-room, to remove one or two roofing slabs, to build a long, narrow burial-chamber of brick or stone, roofed with stone slabs, and to construct a shaft usually of stone in the end of the room. If necessary the shaft was carried up stone-lined to the surface of the time in question. The offering-place was roughly constructed either over the shaft or directly east of it. The tombs of the secondary cemetery appear to have presented the best opportunities for this type of intrusion, and this cemetery, particularly in the northern parts, was seriously encumbered by these intrusions. The intrusive burials of this type were obviously later than Dyn. VI, but appeared to be generally earlier than Dyn. XII.

A second series of intrusions took place in the Ptolemaic-Roman period, contemporary with those of similar date in other parts of the necropolis. These, however, were not extensive, and consisted in the utilization of a few large chapels as communal burial-places.

Finally it is to be noted that at some period, probably Dyn. VI, the chapel of a mastaba near the SW corner of the Great Pyramid was used as a sort of workshop for the manufacture of alabaster model vessels. In this room large fragments and perhaps whole royal statues were broken into small pieces, some of which were scattered over the adjoining ground to a distance of nearly 100 m.

b. The Eastern Field: Cemetery G 7000

East of the Cheops pyramid the main ridge of the rock promontory runs nearly due east to the N-S cliff (altered by quarrying), which overlooked the valley. Between the line of highest level in this ridge and the northern cliff, a distance of about 100 m., the rock surface slopes slightly downwards. On the

south of the ridge the ground slopes gently again for about 100 m. and then with increasing rapidity to the quarry about the Sphinx.

In the northern side of the promontory near the top of the northward slope a long E-W quarry has been excavated, beginning about 30 m. from the entrance of the Pyramid Temple. The western end of this quarry has been filled in with masonry, and a long causeway constructed from the eastern edge of the masonry through the quarry to carry the long corridor which led from the pyramid to the Valley Temple: this causeway does not run due east but about 15 degrees north of east. With a few exceptions the tombs are all situated south of this causeway.

Cem. G 7000, similar to the Western Field, consists of a nucleus cemetery, a secondary cemetery including many rock-cut tombs, and an intrusive cemetery of the Saite, Ptolemaic, and Roman periods.

(1) *The Nucleus Cemetery of the Eastern Field*

The nucleus cemetery of the Eastern Field is more coherent than that of the Western Field. It begins on the west with three small pyramids built for the queens of Cheops. The northernmost stands in the angle between the entrance hall and the main part of the Pyramid Temple, on the top of the southward slope of the promontory. The second, alined with it, stands on lower ground immediately to the south. The third, set back about 2 m. to the west, lies still lower down where the ground begins to slope more rapidly southwards. In front of these three pyramids stand eight very large twin-mastabas arranged in two E-W rows, in four N-S lines. The ground under these eight mastabas slopes gently eastwards, but southwards after the first hundred metres it falls more steeply and in particular in the SE direction. These eight twin-mastabas, situated on the most desirable sites after the erecting of the small pyramids, form the original nucleus cemetery.

The original nucleus cemetery was increased in the first place by the addition of five large mastabas with which is to be associated a sixth mastaba south of the third small pyramid. Directly east of the northern row of twin-mastabas, and alined with their northern end, stands the great mastaba of Ankh-haf, G 7510, which covers the outlook of the northern row and a fourth of the southern row. South of this great mastaba stand two of more modest size, one in front of the other and reckoned as beginning lines 5 and 6 of the cemetery. South of lines 3 and 4, one further mastaba was added to each of these two rows, and, as I have said, a sixth was built south of the third small pyramid.

This growing nucleus cemetery was increased in the second place by the addition of eight mastabas of quite a different type. Two were built, one in front of the other, north of the great mastaba G 7510. One each was added on the south of lines 5 and 6, and a new line (No. 7) was added by two mastabas east of line 6. Two other mastabas were added west of that which is south of the third small pyramid. In continuation of this second addition to the nucleus cemetery of the Eastern Field, one mastaba (G 7560) was added at the southern end of line 5. This mastaba, of the same type as the eight mastabas of the second addition, had a chapel of white limestone. At the southern end of line 6, practically contemporaneous with G 7560, was added G 7670 and then G 7690. These were the last mastabas built on independent sites which continued the unified plan of the nucleus cemetery of the Eastern Field.

(2) *The Secondary Cemetery of the Eastern Field*

The secondary cemetery of the Eastern Field consists as in the west of tombs of descendants and *ka*-priests abutting on the large tombs of the nucleus cemetery and of complexes of tombs constructed in the open spaces, especially to the south and east. Some of the earliest mastabas of this secondary

cemetery continue irregularly to the south as prolongations of rows 5 and 6. These tombs on the promontory itself present much the same problem as in the Western Field.

The Eastern Field contained also a large number of rock-cut tombs in the eastern cliff, and these are much more difficult to deal with.

(3) *Ancient Pillaging, Sanding-up of the Cemetery, and Intrusive Burials*

The evidence of ancient and modern pillaging was found everywhere. The only important burial-chamber which had escaped was that of the secret tomb of the mother of Cheops, which escaped because it had no superstructure. Many small unimportant tombs were found with their burial-chambers intact, as in the Western Field.

The pyramids and mastabas had suffered much greater destruction than the mastabas of the Western Field. The greater part of the casing of the second small pyramid had been removed to within 2 m. of the base before the Ptolemaic period, and several of the mastabas had also lost part, at least, of their fine white casing in or before that period. The small mastabas of nummulitic limestone in the eastern part of the field were found usually denuded almost to the ground by the theft of stone for building purposes, a destruction which has gone on down to the beginning of this century.

The sanding-up of the cemetery exposed to the SW wind proceeded rapidly. The causeway and the great mastaba G 7510 hemmed in the deposit of sand on the north and east. East of this great mastaba the depth of sand was infinitesimal. In the Saite-Ptolemaic period, when the first ascertained intrusions took place, the streets were filled in nearly to the tops of the mastabas, but the street east of the three small pyramids had been cleared out, so that the floor of the Ptolemaic period practically rested on the old IVth Dyn. floor.

The clearing of the street east of the small pyramid was probably begun in front of the southernmost of these pyramids. There, in the XXIst Dyn., the funerary chapel of that pyramid was enlarged into a small temple dedicated to Isis, Mistress of the Pyramids. In the Saite period this temple of Isis was enlarged eastward to the eastern face of the great twin-mastaba of Khufuw-haf which lies in front of it, and built in a cut in the mastaba itself. At the same time three private funerary chapels were built within the precincts of the temple and a number of deep burial-shafts which were used as family burial-places. The street north of the temple was used for circular granaries of c.b. From the Isis temple private tombs of mud-brick were constructed all over the Eastern Field. The burial-shafts of these c.b. mastabas descended either in old shafts of Dyn. IV or through the accumulated debris into the rock below. The chambers of the pyramids themselves were also cleared out and used for communal burial-places.

c. The Cemetery G I S

South of the Cheops pyramid the rock surface slopes gently southwards to the northern edge of the Cheops quarry, now covered with refuse. Just outside the rubble enclosure wall of the First Pyramid stands an E-W row of massive cores, ten in number, approximately alined. The row actually falls into two groups with a space between. On the west there are four cores (Junker's No. 1, an unfinished or destroyed core, No. 2, and No. 3). On the east there are six cores, Junker's Nos. 5-10. No. 10 lies behind pyramid G I-c, and the extension of its c.b. exterior chapel is built in the space south of that small pyramid. This mastaba has not yet been excavated because its street lies under the road used by tourists to visit the Sphinx.

This cemetery, small as it is, also has a few secondary mastabas either abutting the nucleus mastabas or on independent sites (see particularly Junker's Nos. 4 and 11).

d. The Quarry Cemetery West and South-east of the Second Pyramid

West of the Second Pyramid in the face of the quarry scarp which surrounds the Second Pyramid on the west and north there are four rock-cut tombs apparently all unfinished.

On the east, south of the Chephren causeway, the terraces of the old quarry are occupied by a number of rock-cut tombs of members of the family of Chephren and persons of later date, and by a number of mastabas and mastaba-complexes. This cemetery terminates on the south at the edge of the southern *wady* where the mastaba of Queen Khent-kauws of Dyn. V stands built over and around an old block of stone left by the quarrymen. East of the monument and east of the Valley Temple of Mycerinus lies a town of c.b. houses, probably a pyramid city. This area appears to extend across the mouth of the southern *wady* and to be bounded on the south by a stone wall of massive blocks.

In this cemetery still under excavation there is no evidence of any nucleus of tombs following a unified plan. Its place is taken, however, by a number of rock-cut tombs which can be identified with queens and children of Chephren. The rest of the tombs must be reckoned as belonging to the secondary cemetery of Dyns. V-VI.

The quarry cemetery of Chephren lying in a great hollow was filled with blown sand probably soon after Dyn. VI. Its large burial-chambers were found plundered, with few exceptions. The destruction caused by the removal of stone is perhaps about on an equality with that in the Western Field.

North-east of the Great Sphinx, Selim Bey Hassan has excavated a c.b. temple of Harmachis containing stelae of a long succession of kings extending from Amenophis II to the end of Dyn. XIX. This temple marks the revival of a community near the pyramids and a renewal of the use of the necropolis as a place for burials. This revival was based on the identification of the Chephren Sphinx as the god Harmachis (Horus on the Horizon) which must have taken place in or soon before the reign of Amenophis II (seventh king of Dyn. XVIII). His son Thothmes IV claims to have cleared away the sand around the Sphinx and to have originated the chapel between the paws of the Sphinx. Farther away to the SE, in Dyn. XIX, Kha-em-wase, son of Ramses II, built another c.b. temple, probably also dedicated to Harmachis but not yet excavated. Few of the tombs of the community created by these temples to Harmachis (the Great Sphinx) have been identified. In Dyn. XXI the community was increased by the reconstruction of the Pyramid Temple of Queen Henutsen (Pyr. G I-c) into a temple of Isis, Mistress of the Pyramids (Henutsen). The tombs of this community from the Saite period to late in Roman times are identified with the intrusive burials of that time found all over the eastern part of the necropolis and occasionally in the part west of the First Pyramid.

The quarry cemetery and the adjoining area north of the Chephren causeway was also used for burials in the Saite, Ptolemaic, and Roman periods. North of the causeway there is an enormous square pit of the Ptolemaic period and several others in the same region. The older tombs south of the causeway were frequently used for communal burial-places, as in the Eastern Field.

e. The Mycerinus Cemetery

South of the Third Pyramid stand the three small pyramids of his queens in an E-W row. Apart from these small pyramids, there is no nucleus cemetery like those of the Eastern and Western Fields. In the quarry of this pyramid lies, however, a cemetery resembling in some degree the Chephren quarry cemetery. This consists of one large rock-cut tomb with a mastaba on the cliff above it, and small mastabas built on the terraces of the quarry along its northern side and on the western side north of the rock-cut tomb. The mastabas are all of Dyn. V or later, and after reaching the top

of the quarry this small field of mastabas was continued over the adjacent rock above the quarry on the north.

The quarry itself, like the Chephren quarry, was early filled with drift sand. The mastabas on its northern edge were never entirely hidden, although the sand filled the passages between them. No fine white limestone was used in the mastabas, and no serious destruction by the removal of stone has taken place. The mastabas on the ground above and some of the others have suffered by decay.

The burial-chambers had generally been broken open. Even the burial-place inside the great rock-cut tomb had been thoroughly cleared out.

III

ANCIENT AND MODERN RESEARCH IN THE GIZA NECROPOLIS

THE pillage and destruction of the Giza Necropolis have continued from the Old Kingdom down to the beginning of this century. These acts of vandalism have, for the most part, passed unrecorded, having been carried out by obscure individuals in the search for treasure or in the removal of stone for building purposes, but have been clearly revealed during the removal of debris during excavation.

1. THE CLASSICAL WRITERS

A list of twelve classical writers who made mention of the pyramids is given by Pliny (*Nat. Hist.*, Book XXXVI). The chief accounts are those of Herodotus (Book II, paragraph 124), Diodorus Siculus (Book I, lxiii), Strabo (Book XVII), and Pliny (*Nat. Hist.*, Book XXXVI). From the fables and inaccurate descriptions of these authors it appears clearly that the casings of all three pyramids were intact or practically intact, and that the descending passage of the First Pyramid stood open. Herodotus and Diodorus mention some of the Queen's pyramids and Pliny the Great Sphinx.

2. ACCOUNTS OF THE ARAB HISTORIANS

The accounts given by the Arab historians are for the most part highly fantastic, but they show that the three pyramids had been pillaged long before their time. The Arab inscriptions inside the passages and burial-chambers prove that the chambers had been accessible from time to time during the Middle Ages.

It appears certain that the Caliph Māmūn (A.D. 813-833) opened the two upper chambers in the pyramid of Cheops. He visited Egypt to put down a revolt of the Copts and during his stay there explored the First Pyramid, obviously in a search for treasure. He cut a hole in from the north face about on a level with the beginning of the ascending passage and discovered the lower end of this passage when the blocking stone in the opening fell out into the descending passage. He cut upwards along the three granite plug-stones of the ascending passage and so came into the upper part of this passage, whence the way was clear to the grand gallery and the main burial-chamber. The portcullis stones had been of course already penetrated. In spite of the Arab accounts of the wonders and treasures discovered by Māmūn, it is obvious that he found nothing of value. The original pillagers had apparently cleared out the limestone (?) plug-stones of the descending passage and come up through the rough shaft known as the workmen's exit. The descending passage was seen in classical times, but had apparently become blocked with rubbish in Māmūn's time.

'Abd-el-Laṭīf (see Vyse, Vol. II, p. 337) says that Karakush, acting for Saladin (A.D. 1169-1193), destroyed a number of 'small pyramids' at Giza to obtain the material for the construction of a great dyke on the west bank of the Nile. The stone removed from the small pyramids hardly seems sufficient for the work as described, and it may be that the stone was taken also from the tops of mastabas.

'Abd-el-Laṭīf also says (idem, p. 343) that in A.D. 1196 El-Malik el-'Azīz, the son of Saladin,

attempted to destroy the Third Pyramid, clearly in search of treasure, and excavated the great hole in the north face seen at the present day.

It is very difficult to determine when the fine white casing of the First Pyramid and the greater part of that of the Second were removed. William of Baldensel (see Petrie, *Pyramids*, p. 219), who visited Egypt in A.D. 1336, appears to have seen those casings intact, but his statement is not sufficiently explicit to be positive proof. From the Arabic coins found at the Third Pyramid (see *Mycerinus*, p. 19) the destruction of the casing of that pyramid had begun in or before the time of the Aiyubides, a century or more before Baldensel's visit. It seems probable that the casing of the First Pyramid was attacked in this same period and that its destruction continued thereafter for a considerable period. It may be that stone was drawn from these casings for the various buildings in Cairo now said to be built with stone from the pyramids, but the documentary proofs are not now available.

3. THE EARLY EUROPEAN TRAVELLERS

From the early part of the fourteenth century to the end of the eighteenth century a succession of European travellers who visited the pyramids have left more or less copious accounts of what they thought they saw. A very enlightening series of extracts and summaries of these accounts has been given by Colonel Vyse in the second volume of his *Pyramids of Gizeh*. Many of these reports are characterized by speculations as to the origin of the pyramids quite as fantastic as those of the Arab historians. Even those which inspire the most confidence can be shown to contain erroneous statements and incorrect measurements. The great scientific expedition of Napoleon was only a little more precise than the travellers who preceded it. The modern scientific examination of the Giza Necropolis did not really begin until Mohammed Aly Pasha had been on the throne of Egypt for nearly ten years and had opened the country freely to Europeans. Books still continued to be printed with absurd accounts of the pyramids, but in recent times the publications of the pyramid mystics have supplanted all other kinds of fantastic speculation. To two of these mystics, Piazzzi Smythe and Morton Edgar, we are indebted for a number of exact measurements and observations made in a mistaken cause.

4. THE EXCAVATIONS IN THE NINETEENTH CENTURY

The modern excavation of the Giza Necropolis began about 1815. The chief operations and the most important expeditions were as follows:

- (1) 1817: Caviglia cleared out the descending passage of the Cheops pyramid, the chambers of the first plan, and the lower part of the workmen's exit: see Vyse, *The Pyramids of Gizeh*, Vol. II, p. 288, and Belzoni, *Narrative*, p. 136.
- (2) 1818: Caviglia, with the financial assistance of Mr. Salt, cleared the front of the Sphinx and the Roman approach from the east: see Vyse, *The Pyramids of Gizeh*, Vol. III, p. 107, and Belzoni, *Narrative*, p. 137.
- (3) 1818: Belzoni discovered the entrance to the Second Pyramid and explored its passages and chambers: see Belzoni, *Narrative*, p. 255; operations carried out at his own expense.
- (4) 1836-1838: Colonel Howard Vyse and Mr. Perring: Colonel Patrick Campbell and Vyse employed Caviglia under a *firman* to make excavations at the pyramids; Vyse's object was the further examination of the pyramids, while Caviglia was more interested in the Ptolemaic shafts east of the Second Pyramid (including Campbell's Tomb), and the work was taken out of Caviglia's hands on February 13th, 1837; Vyse opened the Third Pyramid, the three small pyramids south of it (G III-a, b, c) and the three east of the

First Pyramid (G I-a, b, c); he forced a passage upwards at the north end of Davidson's chamber and discovered four other relieving spaces roofed with granite above the main burial-chamber of the First Pyramid; Mr. Perring made accurate measurements and plans of all the Giza pyramids and a number of others: see Vyse, *The Pyramids of Gizeh*, Vols. I-III, and Perring, Part III of the same work.

- (5) November 9th, 1842, to January 29th, 1843: the Prussian Expedition under Richard Lepsius, assisted by six others (architects and artists); excavated and examined the chapels of about 97 tombs; published in Lepsius, *Denkmäler*, Vols. I and II, in *Textband I*, and in *Ergänzungsband*; map of the whole necropolis, plans of chapels and rock-cut tombs; copies of reliefs, some in colours; a work of inestimable value.
- (6) 1850-1880: Auguste Mariette, acting as agent for the Louvre, 1850-1854, began the excavation of the Valley Temple of the Second Pyramid, for the account of the Duc de Lueynes; appointed Mamur of Antiquities on June 1st, 1858; finished excavation of this temple and discovered the Chephren statue and others more or less fragmentary: see Hölscher, *Das Grabdenkmal des Königs Chephren*, p. 9, where he quotes from Mariette, *Sérapeum de Memphis*, pp. 91 ff., and *Questions, &c., Comptes Rendus*, 1877, pp. 427-473; Mariette also examined a few mastaba chapels: see Mariette, *Mastabas, Appendice*; see in particular chapels of Merytyetes (G 7650) and Khufuw-khaf (G 7140).

Beginning with the French Expedition of 1798-1801, a long series of scholars have copied reliefs and inscriptions in the mastabas. Of these the most notable are Champollion, Rosellini, Wilkinson, James Burton, Hay, Devéria, Nestor L'Hôte, E. and J. De Rouge (see Porter and Moss, *Bibliography*, Vol. III, *Memphis*).

The examination of the pyramids themselves continued with the object of obtaining complete and more accurate measurements:

- (7) 1864-1865: Piazz Smythe, *Life and Work at the Great Pyramid*, Vols. I-III: the first of the modern pyramid mystics who studied the Great Pyramid on the spot; devised the Pyramid Inch and concluded that the British were descended from the Ten Lost Tribes of Israel.
- (8) 1880-1882: Sir Flinders Petrie, *The Pyramids and Temples of Gizeh*; made an accurate survey of the pyramids and their construction, now generally accepted by scholars.

After the commencement of the final excavation of the Giza Necropolis, the pyramids themselves have continued to be the subject of investigations as follows:

- (9) 1906-1927: John and Morton Edgar; pyramid mystics; *Great Pyramid Passages*; photographs and measurements of details.
- (10) 1928 (?): levelling by Survey Department.
- (11) 1894-1932: Ludwig Borchardt: a long series of treatises on the construction of the pyramid, the last of which, entitled *Einiges zur dritten Bauperiode der Grossen Pyramide bei Gise*, appeared in 1932.

5. THE SYSTEMATIC EXCAVATION OF THE GIZA CEMETERIES

The systematic excavation of the Giza Necropolis began with the concession granted in 1902 by the Department of Antiquities to an American and two European expeditions—the Hearst Egyptian Expedition of the University of California (represented by myself), an expedition of the Turin Museum represented by Professor Schiaparelli, and the Sieglin Expedition of the University of Leipzig repre-

sented by Professor Steindorff. Acting under instructions from Maspero, then Director-General of Antiquities, to divide the site amicably among ourselves, the parties interested met in November, 1902, at Mena House Hotel, Professor Schiaparelli, Professor Borchardt (acting for Professor Steindorff), and myself accompanied by Mrs. Reisner. The chief area in which all were interested was the great Western Cemetery. This area was divided in three nearly equal E-W strips numbered 1-3 from south to north. The numbers were written on slips of paper and drawn from a hat by Mrs. Reisner. The southern strip fell to the Italians, the middle strip to the Germans, and the northern strip to the Americans. The rest of the site was easily divided by agreement. The area of the Second Pyramid, including the Sphinx Temple, was assigned to the Germans, the area of the Third Pyramid to myself, and the area east of the First Pyramid up to a diagonal line from the SE corner of the First Pyramid to the Sphinx was given to Professor Schiaparelli, except that the part north of the medial line of the pyramid was assigned to me. These general lines have been maintained ever since with a few modifications. The Italian concession was given up in 1905 and assigned to myself. In 1905 the American concession was transferred to Harvard University and the Boston Museum of Fine Arts. The German concession was transferred in 1911 to Professor Hermann Junker, representing the Akademie der Wissenschaften of Vienna and the Pelizeus Museum of Hildesheim. In 1928 that part of the old German concession which lay in the quarry east of the Second Pyramid was granted to Professor Selim Bey Hassan, representing the Egyptian University. Since the War the Department of Antiquities have exercised their prerogative to make certain sporadic excavations at Giza, and have undertaken the complete excavation of the Sphinx and of the structures that lie east of it, executed by M. Baraize from 1923 to 1936 and continued by Professor Selim Bey Hassan to the present time.

The area south of the *wady* that bounds the Giza Necropolis on that side is dominated by a long, comparatively narrow ridge running out from west to east. This area was assigned by the Department of Antiquities, with my consent, in 1906 to Sir Flinders Petrie. During the winter 1906-1907 he excavated here a tomb of Dyn. I, a tomb of the end of Dyn. II, and others of the Old Kingdom and the Saite period (see Petrie, *Giza and Rifeh*).

a. The Excavations of the Hearst Expedition

The excavations of the Hearst Expedition of the University of California were confined to the northern strip of the field west of the Great Pyramid. When the concession was granted, in 1902, the Expedition was engaged in the excavation of several cemeteries at Naga-ed-Dêr, and we were unable to begin the systematic clearing which we had planned for the Giza site. In January 1903 I sent Mr. A. C. Mace, together with a small party of our trained workmen, to make a preliminary examination of the strip in question. The actual excavations were limited to fixing the western edge of the cemetery. About twenty more or less demolished mastabas were excavated, but the chief result reached by Mace was that it was unpractical to attack the cemetery from this direction owing to the long carry and the absence of a convenient dumping-ground. He proved that the proper method was to throw the debris out to the north. In 1903-1904 I took over the Giza work personally, leaving Mr. Mace and Mr. A. M. Lythgoe to finish up at Naga-ed-Dêr. I had the services of the greater part of our trained men, about one hundred in number, and purchased a light railway for use in the excavations. I planned to clear the western part of the strip from the great mastaba Lepsius 23 (G 2000), working westwards and dumping to the north. As a preliminary I examined the sandy *wady* north of this mastaba in order to find an unencumbered dumping-place. A little way down the *wady* I found a group of about fifty small mud-plastered rubble mastabas ('the *wady* cemetery'), but the upper part of the *wady* was entirely free

of tombs or other monuments. We cleared from south to north a strip of mastabas (G 1000) along the western side of Lepsius 23, the adjoining strip on the west (G 1100), and the old nucleus cemetery G 1200. In 1904-1905 we continued this excavation westwards, uncovering a field of c.b. mastabas (Cem. G 1400).

In the meantime the Sieglin Expedition had worked in the middle strip during 1902-1903 and 1904-1905. Professor Schiaparelli made some excavations in the Western and Eastern Cemeteries, but attempted no systematic clearing in the southern strip (Cem. G 4000; see Dr. F. Ballerini, *Notizia degli scavi della Missione Archeologica Italiana in Egitto, Anno 1903*).

b. The Excavations of the Harvard-Boston Expedition

In 1905-1906 the Harvard-Boston Expedition, under the personal supervision of Professor A. M. Lythgoe, began clearing the northern strip eastwards from the great mastaba Lepsius 23 (G 2000). This cemetery of small mastabas is labelled Cem. G 2000. Eastward of this the clearing began of Cem. G 2100, one of the nucleus cemeteries in this field, and six mastabas in this cemetery were excavated.

In 1906-1907 the Expedition was transferred to the Third Pyramid (see Reisner, *Mycerinus*). With the assistance of Mr. C. M. Firth I excavated the temple of that pyramid, the quarry, and the quarry cemetery.

In 1907 the work at the pyramids was suspended in order to engage in the Nubian Archaeological Survey instituted by the Egyptian Government. The whole Expedition was engaged in this work from 1907 to 1909. In 1908, during the summer, a gang of trained men was brought down from Quft and under the supervision of Mr. Oric Bates excavated the western part of the Valley Temple of Mycerinus.

Another interruption occurred in 1909. I resigned from the Nubian Archaeological Survey, leaving Mr. Firth and half the trained workmen to carry on that survey, and took over the Harvard excavations at Samaria, which were carried out in the summer of 1909 and 1910.

In the winter of 1909-1910 I continued the excavation of the Valley Temple, assisted by Dr. C. S. Fisher. We also excavated the temple of the small pyramid G III-a. During the winter of 1910-1911 the Expedition under Dr. Fisher excavated the layer pyramid of Zawiyet-el-Aryan and the surrounding cemetery. In 1911-1912 work was resumed in the northern strip of the field west of the First Pyramid, working eastwards from the edge of Lythgoe's excavations of 1905-1906. This work was continued in 1912-1913 and brought the excavation of this strip up to a line prolonging the western side of the pyramid northwards. In 1912-1913 we also completed the clearing of the rock-cut tombs in the Mycerinus quarry. I was assisted during these two years by Dr. Fisher, Mr. Earle Rowe, and Mr. L. C. West.

In 1913-1914 we began clearing the southern strip of the Western Field originally assigned to Schiaparelli, working from the west, and uncovered all the massive cores of Cem. G 4000 in rows 1-4 from line 1 to line 8. I was assisted by Mr. H. L. Story. The excavation of the eastern part of this strip was carried out in 1914-1915 and 1915-1916, working in from the east.

In the years 1916-1920 the Expedition was employed in excavating the royal monuments at Napata in Ethiopia, and during 1920-1923 the pyramids of Kabushiyah. This absorbed all our resources, and it was not until 1924 that the work could be resumed at the pyramids. In the summer of that year, with the assistance of Mr. Alan Rowe, the temples of the two small pyramids G III-b and G III-c were excavated and recorded. On November 1st, 1924, we began clearing the field east of the First Pyramid and excavated in that the two northern small pyramids (G I-a and b), the northern row of

four twin-mastabas, the great mastaba of Ankh-haf, and an area east of this mastaba. In February-March 1925, while I was absent in America, Mr. Alan Rowe, assisted by Mr. Greenlees, continuing the systematic clearing of the Cemetery, discovered the 'secret tomb' of Hetep-heres, the mother of Cheops.

The secret tomb was cleared and reported with the assistance of Mr. Dows Dunham and Lieut.-Com. Noel F. Wheeler during 1925-1926 and 1926-1927. Meanwhile the work of excavation proceeded on a reduced scale under Lieut.-Com. Wheeler.

In 1925-1926 we excavated the mastabas west of the Schiaparelli quarry in the southern strip of the Western Field, including the family group of Shepses-kaf-ankh, Ity, Iy-mery, and Ptah-neferbauw (Cem. G 6000). This work continued from November 18th to December 28th, 1925. On December 3rd we began exploring the ground south of Cem. G 7000 to prepare for the excavation of the southern part of that cemetery. On December 23rd the greater part of the men were engaged in Cem. G 7000, clearing the small pyramid G I-c, and by the 28th the whole gang had been transferred to this point.

The excavation of the Eastern Field (Cem. G 7000) proceeded steadily as follows:

- (1) December 23rd, 1925, to May 1st, 1926.
- (2) January 17th to April 24th, 1927.
- (3) March 13th to May 22nd, 1928.
- (4) February 4th to May 6th, 1929.
- (5) November 1st, 1929, to January 20th, 1930.
- (6) November 28th, 1930, to February 5th, 1931.

All the important mastabas in Cem. G 7000 have now been uncovered in one continuous series. There remain to be cleared a few small areas of denuded mastabas on the outskirts of the field, and without doubt a number of rock-cut tombs in the lower part of the Eastern Cliff.

In the season 1931-1932 the preparation of the final publication made it necessary to carry out certain subsidiary excavations in the Western Field, as follows:

- (1) March 6th to May 5th, 1932: Cem. G 1200 and northwards to the cliff.
- (2) December 24th, 1932, to March 11th, 1933: northern part of Cem. G 2100.

At intervals since 1924 small gangs of men (5-10) have been employed in clearing small points for the purposes of maps, plans, and other references.

c. The Excavations of Other Expeditions

While our Expedition was engaged in the systematic clearing of the concession assigned to me and that originally assigned to Professor Schiaparelli, Professor Steindorff and Professor Junker made a similar clearing of the concession assigned to Steindorff (see Junker, *Giza I*, *Giza II*, and preliminary reports in *Anzeiger der Akademie der Wissenschaften in Wien*, 1913-1929). The Sieglin Expedition was occupied until 1909 in excavating the middle strip of the Western Field. In 1909-1910 they cleared the Pyramid Temple of the Second Pyramid and excavated the court of the Valley Temple east of Mariette's excavation.

From 1911 Professor Junker continued the excavation of the middle strip until 1914. During the War the work on the German concession was suspended, and it was not until 1925 that Professor Junker resumed work at Giza. Having completed the middle strip of the Western Field, he excavated the Cem. G I S in the seasons 1927-1928 and 1928-1929.

In 1915, January to March, Dr. C. S. Fisher, for the Ekeley B. Coxe Expedition of the University

of Pennsylvania, excavated Cem. G 3000 and published his work in Fisher, *The Minor Cemetery at Giza* (Philadelphia, 1924). The cemetery lies in the northern third of the Western Field and adjoins on the north the Cemeteries G 1200, G 1300, and G 1400 excavated by the Hearst Expedition.

In 1923 M. Baraize began, on behalf of the Department of Antiquities, the excavation of the Great Sphinx and the constructions to the east of it. As a result of this work, the whole body of the Sphinx was exposed for the first time to the view of modern eyes. It was definitely determined that the Sphinx was carved from a natural nodule of rock left by the old Cheops quarrymen and was originally coated with white plaster and painted. It was also proved that the Sphinx was restored twice with a coating of small masonry over the whole body, the first time by Thothmes IV, who set up the famous granite stela between the paws, and again by a later king probably in the Ptolemaic period. An extraordinary building of massive blocks of stone has been uncovered, and the excavations were continued annually up to 1936, when the excavations were taken over by Professor Selim Bey Hassan.

In 1929 Professor Selim Bey Hassan, working for the Egyptian University, began the excavation of the great quarry cemetery east and SE of the Second Pyramid. In 1936 he had practically completed the excavation of the causeway of the Second Pyramid, the boat graves found by him north and south of the pyramid temple, the rock-cut tombs and the mastabas south of the causeway as far south as the Valley Temple of Mycerinus. In addition to the rock-cut tombs of members of the family of Chephren recorded by Lepsius he has cleared a large number of similar tombs of the same family whose names are known only from these tombs. He has uncovered and recorded a large secondary cemetery of tombs partly built and partly cut in the rock (see Selim Bey Hassan, *Excavations at Giza 1929-1930*, and *Excavations at Giza 1930-1931*). On the edge of the southern wady he excavated a mastaba built on a rock knoll which had puzzled archaeologists for a hundred years, and identified it as the tomb of Queen Khent-kauws of Dyn. V. East of that mastaba he uncovered an area of c.b. walls which appeared to belong to the same pyramid city found by us east of the Valley Temple of Mycerinus. The eastern side of the quarry south of the Valley Temple of Chephren is still covered with old dump-heaps which will be cleared away later. In 1936-1937 Selim Bey Hassan took over the clearing east of the Sphinx, begun by M. Baraize, and has there uncovered a c.b. temple dedicated to the god Harmachis (the Great Sphinx) and found in it a series of dedicatory stelae set up by kings beginning with Amenophis II and extending to the end of Dyn. XIX. The Egyptian Government has arranged for the gradual expropriation of the native village built against the cliff east of the First Pyramid and its excavation by Selim Bey Hassan. This excavation will be of the greatest importance and will recover for us not only the inaccessible rock-cut tombs in the lower part of the cliff, but perhaps some vestiges of the Pyramid City of Cheops. It will also recover all that is left of the Valley Temple of Cheops himself. It is also to be hoped that in time he may be permitted to excavate outer areas east of the necropolis, particularly the temple of Kha-em-wase (son of Ramses II) and the environment of the massive stone wall which appears to form the southern boundary of some pyramid city and remains to the present day a problem.

IV

THE BASIS OF THE GENERAL CHRONOLOGY OF THE GIZA NECROPOLIS AND THE PRINCIPLES FOR DETERMINING THE DATES OF THE INDIVIDUAL MASTABAS

1. THE CHEOPS CEMETERY

THE great Giza Cemetery was essentially the cemetery of Cheops. The nucleus was the great pyramid of that king with the three pyramids of his queens and the fields of mastabas designed by him, west and east of the pyramid, for his children and favourites. These mastabas consist of four cemeteries in the Western Field, of which three (Cem. G 1200, Cem. G 2100, and Cem. G 4000) were begun by the tombs of princes representing obviously different branches of the family of the king. All three cemeteries are overlooked by the great mastaba G 2000, the tomb of the most important person of the reign, probably the highest official, and a prince of the blood royal. In the Eastern Field eight great twin-mastabas were designed and partially completed for the favourite sons and daughters of Cheops. The king's own tomb, the plan of which was altered twice, leaving the first two designs unfinished, stood as the greatest of all true pyramids built of solid local limestone, cased with fine white limestone, dominating the whole plateau. Against its eastern face stood a great funerary temple of limestone paved with basalt and perhaps cased with hard stone. From the entrance a great corridor led down to a valley temple, the remains of which have not yet been excavated. In front lay the area marked off for the Pyramid City of Cheops, in which were to reside the funerary priests of Cheops and those of the members of his family and court, exempt from taxes and official exactions, maintained by endowments of agricultural land. The great plan was never completely carried out, but it is easy to visualize the rows of white-cased mastabas conceived by Cheops. The whole was to be a great city of the living *kas* of all members of the royal family and the court. The king lay in his pyramid provided with all the splendid equipment of his person and his palace; the daily supply of food and drink was guaranteed by the endowments of the servants of the *ka*, who were engaged to make offerings and recite the necessary formulas in the temples attached to the pyramid. The king's *ka* was free to pass unhindered from the grave to the temple and the outer world. His queens, his children, his officials, and his attendants lay in the small pyramids and the mastabas east and west of the pyramid, and these were provided with similar equipment and similar daily offerings, each in proportion to his rank and means. Their *kas*, also, were free to pass unhindered to and fro from the grave to the outer world. The mother of the king, Hetep-heres I, was also there, buried (or so the king thought) in a secret tomb, as the result of an accident, not as part of the original plan. Thus in the ghostly world of life after death the court of the great king, with the queen-mother, the queens, the children, and the great officials, was assembled around the *ka* of the king and in daily association with him.

The conception of a cemetery as a community of living *kas* is entirely in accord with the character of all Egyptian cemeteries, in particular the family cemeteries of the provinces. Usually these cemeteries were formed by gradual growth covering a number of generations, but we look in vain for cemeteries

built on a unified plan similar to the Cheops cemetery except at Abydos around the tombs of the kings of Dyn. I, and perhaps at Dahshur on the plateau east of the pyramid of Sneferuw. At Abydos the tomb of Narmer had the tombs of two queens and thirty-three other persons arranged in rows east of the king's tomb (thirty-six tombs). Around the tomb of Zer were eight groups, each consisting of blocks of small tombs built in trenches, 324 in number. The subsidiary cemetery of King Zet contained a lesser number, 174. Around the tombs of Merneith, Wedymuw, and Az-ib the subsidiary graves were arranged in a hollow rectangle. These Abydos cemeteries were not laid out entirely on a unified plan, but grew to a certain extent by accretion. So also the great cemetery of Cheops was not designed from the beginning on a unified plan; but having been begun with three separate nucleus graves, developed into three cemeteries built on regular lines and increased by two separate cemeteries (Cem. en Echelon and the Eastern Cemetery), which were laid out each on a separate unified plan. But in all these the basic idea is the association after death of the *kas* of the persons forming in life the family and the court of the king.

Radedef, who was probably the second son of Cheops and succeeded his father, avoided burial beside his father's tomb and began a new cemetery at Abu Roash on a high plateau of limited area. His pyramid was perhaps never completed and only six or eight other tombs were laid out on the plateau. In my reconstruction of the family history of Dyn. IV, I attribute the accession of Radedef of the Libyan line of Cheops descendants to the murder of the eldest son, Prince Ka-wab, of the legitimate Egyptian branch of the family. I imagine that Radedef's avoidance of his father's cemetery, his failure to occupy the site afterwards taken by the Chephren pyramid, was due to his reluctance to be associated after death with his murdered brother, Ka-wab. During the reign of Radedef practically no stone masonry was constructed at Giza. Radedef ruled only eight years, and I believe his life was shortened by the action of the princes of the legitimate line, either by assassination or in battle. His death enabled Chephren, a younger son of Cheops and of the legitimate branch, to take the throne.

With the reign of Chephren the growth of the Cheops cemetery was resumed. Chephren built his pyramid on the nearest available site. This was SW of the Cheops pyramid and west of the great quarry opened by Cheops. His own tomb, the Second Pyramid temples, and the Great Sphinx form the greater part of the work executed in his time. No large field of mastaba cores appears to have been laid out. I attribute to his reign the casing of the eighth twin-mastaba for his brother Min-khaf and the construction of four other cores east and south of the twin-mastabas of the Cheops field. Three of these were cased in fine white limestone in or previous to the year 13 of Chephren—the tombs of Prince Ankh-haf, Princess Merytyetes, and Queen Hetep-heres II (afterwards used for Meresankh III). In the same reign, but probably after the year 13, was constructed the mastaba of Queen Nefert-kauw (G 7050), a daughter of Sneferuw. Around the mastabas added later in the reign of Chephren, to the east and south, were built four filled mastabas of type VI, the tombs of 'Prince' Duwanehor, 'Prince' Sekhem-ankh, 'Prince' Min-dedef, and a prince whose name has been lost. West of the tomb of Queen Nefert-kauw (G 7050) were added two other grey mastabas of type VI, the tombs of Prince Nefer-ma'at, son of the queen, and that of Sneferuw-khaf, her grandson. Two others were added north of the tomb of Ankh-haf, Prince Zaty and Iy-nefer . . . , the husband of a princess. I assign the construction of these eight grey mastabas to the latter part of the reign of Chephren or the early part of the reign of Mycerinus. They represent the descendants of Cheops, mostly grandsons. In the Western Cemetery in the reign of Mycerinus was constructed the massive core G 5110, cased in fine white masonry, the tomb of Duwanera, and adjoining this on the north the grey stone mastaba of 'Prince' Khnum-ba-f, probably his son. East of the southern half of the mastaba of Duwanera stands the mastaba of the steward

Khemten, who served Prince Ka-wab, Princess (Queen) Hetep-heres II, and Queen Meresankh III, and perhaps Prince Duwanera. This mastaba, built of w-masonry with a one-niche chapel of u-masonry, was probably built in the reign of Mycerinus, although Khemten himself appears to have been still alive in the reign of Shepses-khaf, when he appears as the chief funerary priest of Meresankh III.

2. THE PRINCIPLES ON WHICH MASTABAS MAY BE DATED

This is the outline in brief of the nucleus cemeteries in the Giza Necropolis. It remains to establish this outline and to fill in the details, giving the position, as far as can be ascertained, of the individual mastabas. I approach this question first of all on the basis of the type forms of the mastabas and their topographical position. Before taking up the type forms I will lay down the means available for establishing the dates of the individual mastabas.

a. Stages in the Construction and Use of Mastabas

During the Predynastic period and the early part of Dyn. I the open-pit graves, whether lined or unlined, were easily prepared. Only the pit could have been made before the burial, and it is probable that the whole grave, including the mastaba, was made after the death of the owner. It is possible that the treatment of the body with resins and oils, as in the later mummification, began as a result of the delay between death and burial, after the introduction of the more elaborate substructures of Dyn. I, although these would have required only a week or so to prepare. The mastaba of this time was still constructed after the burial. With the introduction of the stairway tomb of about the middle of Dyn. I, it became possible to prepare the roofed substructure and perhaps build the mastaba before the death of the owner, and have the tomb ready and waiting years beforehand. This created either two stages—the preparation of the tomb, and the deposition of the burial—or three stages—the roofing of the substructures, the burial, and the building of the mastaba. The stairway tombs with the substructure built of c.b. in an open pit or trench developed in Upper Egypt from the wooden-roofed to the corbel type during Dyns. I and II and finally to the IIIrd Dynasty stairway type, with chambers cut in the geological substratum. At Memphis the deep stairway tombs there excavated in rock developed in Dyn. II. These deep stairway tombs of Dyns. II and III presented in general three stages: (1) the preparation of the stairway and the burial-chamber or chambers, followed almost immediately by (2) the construction of the mastaba and chapel, and followed at greater or less interval by (3) the burial. In the interval between the preparation of the tomb and the burial, enlargements and additions were often made, particularly to the mastaba and chapel, and among these is to be reckoned the decoration of the walls of the chapels (as in Hesy-ra).

In the Great Western Necropolis at Giza, which was begun with the stone mastaba cores, the stages in the construction of each mastaba were increased in number by the fact that large blocks of mastabas were laid out by the works department of the king in regular lines and rows with streets of uniform width between the mastabas. These original mastabas were often used as they were built, but many of them were cased with a different kind of stone in later years, and I have adopted the word 'core-mastaba' to designate the original constructions made by the king. When these cores were used as mastabas, then the stages were four in number, as follows:

- (1) The construction of the core, including the stone-lined upper part of the 2-m. shaft, and in most cases the affixing of the slab-stela in the retaining wall of the core.
- (2) The excavation of the rock-shaft and the rock-chamber. The chamber was usually lined with fine masonry.

- (3) The construction of the exterior c.b. chapel, around the slab-stela.
- (4) The burial.

Stage (2) appears in most cases to follow almost immediately on stage (1), but examples occur in which the rock-cut shaft and chamber were not made until long after the construction of the core. Stage (3) certainly followed stage (1), perhaps after an interval in time. Five of the earliest of these cores had been reconstructed, apparently after they had reached stage (3), and thus presented additional stages as follows:

- (4) The destruction of the c.b. chapel, and the addition of massive core-work with white casing and interior chapel (completed in only two cases).
- (5) The decoration of the chapel, executed apparently in only one case (G 4000).
- (6) The burial.

The cores referred to here are those of type II a and b. Some of these were cased in stone and the intention appears to have been to case all the cores of type IV. These cased cores present five stages, as follows:

- (1) The construction of the core, which appears to have included the part of the burial-shaft above the rock. This part through the mastaba filling was cased with stone blocks.
- (2) The excavation of the rock-cut part of the shaft and the rock-cut burial-chamber: the burial-chamber was usually lined with stone.
- (3) The construction of the offering-chapel and the casing.
- (4) The decoration of the chapel.
- (5) The deposition of the burial and burial-furniture in the chamber, and the blocking of the entrance to the chamber, together with the filling of the burial-shaft.

The stages generally followed one another in the order indicated, but cases occur of the postponement of stage (2), the excavation of the burial-place, until after stage (3) and even (4) (see G 7110). The separation in time of the stages is variable, according to circumstances. In some cases the stages succeeded one another with no appreciable lapse of time. In others the evidence shows that years or even generations elapsed between stages (1) and (2) or stages (4) and (5). Moreover, each stage was sometimes complicated by additions and alterations, of which the most important was the addition of core-work of quite a different type from that of the original core.

The same series of stages is revealed by the private core-mastabas of Dyns. V–VI, but in these the operations appear generally to have been continuous through stages (1)–(4), when a delay may occur before (5) (the burial).

In the case of the filled mastabas with sloping grey casing which appear in the reign of Chephren (see below), the stages are modified by the method of construction and may be reckoned as (1) construction of mastaba with chapel and cased part of burial-shaft, (2) excavation of burial-place, (3) decoration of chapel, and (4) the burial.

b. The Indicia for Dating the Different Stages

In the tombs of kings all the stages are limited to the reign of the king or to that reign plus a few years in the reign of his successor. But in the royal mastabas of Giza, where intervals of time may have elapsed between the stages, each of the four requires separate determination. The indicia by which the date of any stage may be fixed consist in both inscriptional and archaeological evidence, as follows:

- (1) Stage 1: the construction of the core is never fixed by inscriptions on the stones themselves, but may be limited by the determination of the dates of the succeeding stages; the

direct evidence consists in the type of construction and the relative position of the core in the cemetery; the slab-stela affixed to the eastern face of the core undoubtedly marks its assignment by the king (in most cases Cheops) to a particular person.

- (2) Stage 2: the preparation of the rock-cut burial-shaft and chamber was in one case fixed by a mason's inscription to the reign of Cheops, but the evidence is usually confined to archaeological considerations.
- (3) Stage 3: the construction of the chapel and the casing may be fixed by more or less exactly dated masons' and quarrymen's inscriptions, but these are rare.
- (4) Stage 4: the most usual inscriptional evidence is that given by the decorations of the chapel walls: these inscriptions include name and titles of owner, names of his relations and servants, and the names of his funerary estates; they give actually the date of the decoration of the chapel, but this was usually in continuation of the construction of casing and chapel; the completion of stage 4 marks the 'finishing' of the tomb previous to burial (which may or may not follow immediately).
- (5) Stage 5: the burial is dated only by the contents of the burial-chamber; at Giza the most certain evidence of the date of the burial is that afforded by mud sealings impressed with the seal of an official of a named king; these sealings represented gifts of oil, ointments, incense, and linen made by the king to favourite persons at the time of their death and date the burial to the reign of the king or soon thereafter; inscriptions containing the name of a king inscribed on objects of the funerary furniture are also marked thereby as presents from the king named, and indicate that the owner lived in the reign of that king and died during or not exceeding a lifetime after the death of that king: the objects if numerous may serve to date the burial to a known archaeological group.

c. The Principles for Determining the Date of the Decoration of a Chapel

In general when scholars speak of the date of a mastaba they are referring to a date based on the inscriptions and reliefs in the chapel. As I have just said, this evidence actually fixes the date of the decoration of the chapel. But the evidence even as to that must be scrutinized with care, and general principles may be formulated of an axiomatic character which will clear away the danger of error in the scrutiny. The object of the reliefs and inscriptions on the walls of a chapel is to provide the means of a happy and prosperous life 'as on earth' for the *ka* of the owner. Apart from the archaeological evidence resulting from the comparison with other dated chapel decorations and the type of chapel, the main factors in determining the date of the reliefs are: (1) the name and titles of the owner, (2) the names and titles of his relations and servants, (3) the names of the estates of his funerary endowment, (4) biographical notices, which are very rare in Dyn. IV, and (5) inscriptions giving date of death and burial (one example). Each of these elements has its special significance.

(1) *Names and Titles on Chapel Walls*

The principal name inscribed in the chapel is of the greatest importance for identifying the owner of the tomb. The other names permit the reconstruction of his family, wife, children, and funerary priests. The titles used fix the rank of the owner and of the other persons mentioned, and it is necessary to make clear the conditions under which these titles were inscribed. In the first place the whole decoration of the chapel served the principal person in the creation of his life after death, and was

executed in most cases under his supervision and in accordance with his personal wishes. One of the objects aimed at was to impress the future visitors to the tomb with the high rank of the owner. It may be assumed that the owner would inscribe among his titles everything that would exaggerate his importance, and we may expect every courtesy title used by his friends and servants in addition to the designations of his actual rank and place in the administration.

The most significant titles are 'king's son of his body' and 'king's daughter of his body', for which 'king's son' and 'king's daughter' occur as synonyms. Down nearly to the end of the reign of Cheops these titles are to be taken literally. But at the end of that reign we have the two sons of Prince Khufuw-khaf referred to as 'king's sons', although not the sons of a king. A short time thereafter we find the Queen Meresankh III, a daughter of Prince Ka-wab, using the title of 'king's daughter of his body', probably granted by her stepfather, Radedef. There are other cases such as Khnumbaf (G 5230) and Mer-ib (G 2100 add.). Thus after the reign of Cheops the title of king's son or daughter may be hereditary or honorary, but this use of the titles appears to be confined during the Old Kingdom to grandchildren of Cheops.¹

The most common of all titles at Giza is that of *rh-nšwt* ('king's clansman'). During the reigns of Sneferuw and Cheops this title seems to designate a grandchild of a king. Apparently in the later part of Dyn. IV this title became hereditary and designates then and later merely the descendant of a king. Cases occur at Giza in which only one parent is a *rh-nšwt*, and the title is inherited by the children. The usage after Dyn. V is uncertain and perhaps the title was sometimes conferred by the king or assumed without a right to it.

Unfortunately these titles very seldom give the name of the king to whom the title-bearer was related. There are a few exceptions such as Hetep-heres II and Neferma'at of Giza and his son, but these only emphasize the general rule. Consequently the name of the father or grandfather has to be deduced from other evidence, generally archaeological. A principle which runs throughout Egyptian cemeteries is that the members of a family desire to have their tombs in close proximity. The desire for association is clearly shown by the inscription in the tomb of Zaw at Der-el-Gebrawi (Davies, *Der-el-Gebrawi*, II, pl. XIII): 'My burial is in one tomb together with this Zaw (his father) in order that I might be with him in one place, not because there was lack of means to make a second tomb, but I have done this in order that I might see this Zaw (his father) every day in order that I might be with him in one place.' The consequence of this desire of relations and servants to be buried in family or court cemeteries with their parents or masters is exemplified by the great complexes of the royal and even the large private tombs of Dyn. I, and in almost every provincial cemetery. The principle has been utilized in the examination of the Cem. N 500-900 (see *Naga-ed-Dêr*, III) and in the royal cemeteries of Ethiopia (see *Nuri*). Another striking case is the cemetery of the governors at Kerma with their great tumuli and groups of subsidiary graves (see *Kerma*). A son makes his tomb near the tomb of his father. Thus a prince whose tomb is on a primary site near the tomb of a king may be presumed to be the son of that king. In the case of a cemetery laid out by a king, as was that at Giza, the presumption is even stronger. But the possibility must be admitted that in some cases a brother or cousin of a king may have through personal attachment elected to be buried near his brother rather than his father. This would apply in particular when the tomb of the elder king was at a distance from that of the king, his son, as was the case with Sneferuw and Cheops.

The title of *rh-nšwt*, which in the reign of Cheops generally indicates a grandson of a king, presents

¹ In the text the title of real king's son is printed without quotation marks and the courtesy title of prince or princess is printed in quotation marks.

greater difficulties in the determination of the grandfather. He may have been a cousin of the king in whose cemetery his tomb stands, or he may have been a grandson. When he stands in a family group headed by a prince, the *rh-nswt* may be assumed to have been a son of that prince. But each case must be examined on the basis of all the evidence.

Of the other titles which give a basis for dating the chapel the most important are those which mark the priesthood of a king. These are *hm-ntr* of a king, *hm-k* of a king, *wrb* of a king, or of a king's pyramid.

The original holders of such titles were undoubtedly selected by the named king in his lifetime and accompanied by contracts like those used in engaging all the servants of the *ka*. After the death of the original holder the office passed to his heir or to a new appointee by some official act. We have proofs that in some cases a priesthood was exercised by a man living several hundred years after the death of the king named. The mere title does not allow any conclusion as to the length of time which had elapsed after the original appointment. In a few cases it is evident from the titles held by a king's son and from the date of the mastaba that he was a son of the king in whose funerary service he stood. Generally, however, the title indicated that the chapel was decorated in or after the reign of the named king, but not before that reign. In a few cases the owner of a tomb held the funerary priesthoods of two or more kings, and then it is to be assumed that the chapel was decorated in or after the reign of the last king named.

(2) *Names compounded with the Name of a King*

Names compounded with the name of a king have a varying significance for the date of the birth of the person concerned. That person was probably not born before the beginning of the reign of the named king. I say 'probably' because the renaming of a child on the accession of a king is not impossible. When the person whose name is under examination was a king's son, the natural assumption is that he was a son of the king named. In the case of other persons it is clear that in general the name of the reigning king would have been used in compounding the personal name, and a number of persons are known who were certainly born in the reign of the king with whose name their names are compounded, or died within a period of years after the death of the king which does not exceed the ordinary probabilities of human life.

On the other hand, persons are known who could not possibly have been born in the reigns of the kings for whom they were named. These names appear to have been adopted for other reasons. In the Egyptian families the same names were used repeatedly by succeeding generations. In the Giza mastabas the name of the father is often given to a son with the addition of the word 'small' (*šr*); see Seshem-nofer and Seshem-nofer-sher, Khemten and Khemten-sher, &c. It is probable that names compounded with the name of the king were passed on in a similar manner; see Prince Khufuw-khaf I and 'Prince' Khufuw-khaf II, and Khufuw-khaf III, the son of the latter 'prince'.

The fact must also be kept in mind that by reason of family quarrels members of the royal family may pass over even the name of their immediate ancestor and compound the names of their children with that of the grandfather or even a more distant ancestor. For example, the family of Queen Nefert-kauw, daughter of Sneferuw and one of the queens of Cheops, was obviously at variance with the successors of Cheops, and probably with Cheops himself. It is natural, therefore, to find a grandson of the queen named Sneferuw-khaf after his great-grandfather. Some similar explanation may lie in the case of Khufuw-mery-neteruw, the son of Mer-ib and a great-grandson of Cheops. It must be admitted that both the men named may have been born in the reign of Sneferuw and Cheops respectively, but with no great degree of probability. The inheritance of the funerary priesthood of a king

and estates of his funerary endowment probably also influenced the selection of names of children of later generations.

The great majority of the persons found at Giza whose names are compounded with the name of a king of Dyn. IV and such elements as *ankh*, *khaf*, *seneb*, and *nekht* were probably born in the reign of the king for whom they were named. Other examples can be cited from Dyns. V and VI. But cases certainly occur in which persons whose names are compounded with the name of a king were obviously born after his death. The conclusion is forced upon us that the name of a king compounded to form a personal name does not *ipso facto* date the birth of the person concerned to the reign of that king.

The above considerations show that the utilization of names compounded with the name of a king for dating their owners presents great difficulties. Each case must be examined with a view to all the other available facts. In general I am of the opinion that a king's children whose names are compounded with the name of a king (in a cartouche) were born in the reign of that king, unless the other facts positively contradict that assumption. In other cases, the person concerned was born in or after the reign named.

(3) *Names of Estates*

Great use has been made of the names of the estates of the funerary endowment (*pr dt*), when such names are compounded with the name of a king, and has frequently led to the misdating of Old Kingdom mastabas. The significance of these compound estate names must therefore be given greater precision. It is to be noted that such a compound signifies that the estate in question has been the property of the king named and probably acquired by him. Such estates mentioned in tombs as part of the funerary endowment of the owner must have come into the possession of the owner by grant, inheritance, or purchase. The estate of any particular king passed (1) to his wives, sons, and daughters by gift or testament, or (2) to the servants of his *ka* by civil contract (grant). It may be assumed that a king would have made provision for his adult children by gifts of estates during his own lifetime. The list of eight Cheops estates mentioned in the tomb of Khufuw-khaf, which was built before the end of the reign of Cheops, is confirmation of this statement. It was customary in Egypt for men to divide their property after death by testaments prepared while they were still alive. It may be assumed that kings also made testaments dividing their private property among their wives and children and that estates thus bequeathed passed to the legatees after the king's death. The estates granted to servants of the *ka*, either of the king himself or of favourite relations, were probably delivered before the death of the king (see the contracts of Hep-zefa of Dyn. XII).

King's estates which passed by gift or by testament to other members of his family, especially children, would in turn be disposed of in the same two ways: (1) by gift or testament to members of their family, or (2) by civil contract to funerary priests. It is possible that in exceptional cases the royal estates bequeathed or granted to members of the king's family passed into the possession of the grantees or the legatees after the death of the king concerned.

King's estates in the possession of funerary priests passed as a rule to the heirs (wives and children) of the funerary priests, carrying with them the obligations imposed by the original contract. The group of estates might pass undivided to one heir or be divided among all the heirs, in which case each portion carried a proportional share of the funerary obligations. The transfer of such funerary estates from *ka*-priest to *ka*-priest would usually take place after the death of the king to whom the estate originally belonged, and such transfers might continue for generations. Legally such king's estates in the possession of a funerary priest were inalienable and barred by this fact from inclusion in the funerary

endowment of the *ka*-priest of the king. Whether irregularities in the observance of the rule may have occurred it is now difficult to determine.

These legal methods by which estates passed from person to person give rise to the following conclusions:

- (1) A king's son or a king's daughter, among whose funerary estates are those compounded with names of one or more kings, was in the direct line of descent from the kings named and probably the son or daughter of the last named (see the estates of Cheops and Chephren in the tombs of Khufuw-khaf, Meresankh III, Nekauw-ra, Sekhem-ka-ra, and Neb-m-akhet): the decoration of the tomb may have taken place late in the reign of the father of the prince or princess, but more usually after his death, but not exceeding the maximum length of a human life after that death: each case requires careful sifting of all the evidence (cf., for example, the case of the estate names in the tomb of Meresankh III which appear to have been granted to the funerary priests by the mother, Queen Hetep-heres II).
- (2) When the owner of the tomb is a *rh-nswt*, a grandchild or a descendant of the king, he or she may have inherited king's estates through the direct line of descent from a king's son or king's daughter. In such cases the tomb was certainly prepared after the death of the king concerned.

The general conclusion appears to be that when the name of a king's estate appears in the funerary endowment of a tomb, the decoration of that tomb is to be dated in general after the death of the king to whom the estate belonged; but if the owner of the tomb be a king's son, the tomb may have been decorated towards the end of the reign of the king in question.

(4) *Names and Titles of Relations*

The inscriptions often give various relations of the person to whom the tomb belonged, and, from these, family groups can be composed including two or more generations (cf. tomb of Meresankh III). These relations may be used in two ways. First in importance is the case where one or more members of the family is dated by a reference in another tomb. For example, Prince Neb-m-akhet, who is proved by the estate names in Lepsius G 86 to be a son of Chephren, occurs as the son of Queen Meresankh III in her tomb. Again, by means of family or funerary relationships two or more tombs may be placed in proper chronological order and so facilitate the dating of the whole group. The reconstruction of certain families has been of great service in working out the relative chronology of the mastabas in some parts of the Giza Necropolis.

(5) *Biographical and Similar Inscriptions*

Biographies or autobiographies are very rare in Dyn. IV, but extremely valuable. They are more common in Dyns. V and VI. In some of these the account may even include a description of the building of the tomb or the presentation of sarcophagus or carved stones by the king. All such accounts (Debehen, Senezem-ib, Nekhebuw, &c.) are of great value for dating the stages of the mastabas in which they occur.

There are also biographical notices such as that of Neter-puw-nesuwt, Prince Sekhem-ka-ra, Merytyetes, and Ptah-shepses, which give us the names of the kings under whom the person lived. These notices enable us to calculate the length of life of each person concerned, and thus to control the length of the reigns assigned to the kings under whom they lived.

Other documents which give biographical informations are the few wills and deeds which have come down (Neka-ankh, Pennuw, Pen-meruw, Nekauw-ra, &c.).

(6) Dated Inscriptions regarding Death and Burial

In the biographies of Dyns. V-VI occasionally a definite date is given as in the letter of Isesy to Senezem-ib-Yenty. Quite different from these documentary dates are the two inscriptions on the chapel doorway of the tomb of Meresankh III, one of which gives the date of the death in the first year of an unnamed king and the second the date of the burial. Something similar was inscribed on a niche in the mastaba above the tomb of Meresankh III, the mastaba built for Hetep-heres II, but there the date and the inscriptions are fragmentary. The year appears to be 3 (*hwt sp 2*) of an unnamed king.

V

THE CONSTRUCTION AND THE TYPES OF MASTABA CORES IN THE NUCLEUS CEMETERIES

1. MATERIALS AND METHODS OF CONSTRUCTION OF THE CORE-MASTABAS OF THE NUCLEUS CEMETERIES

a. The Clearing of the Rock-surface for Foundations

AS explained in Chapter II, the nucleus cemeteries of cores are six in number, four in the Western Field, one in the Eastern Field, and one south of the Cheops pyramid. All these cores are founded on the surface of the grey nummulitic limestone which forms the promontory on which the Giza Necropolis was built. In the case of the four cemeteries of the Western Field and that of the Eastern Field, the rock-surface has been cleared, either at one operation or in successive areas, before the construction of the cores, and the streets were afterwards filled in with masons' rubbish to form a living-floor about on a level with the floors of the chapels. The dumping-places of the geological rubbish and sand removed in the clearing operations cannot now be definitely ascertained. In the excavation of the small *Wady Cemetery*, north of G 2000, we discovered that this cemetery had been covered by the debris cleared away when that mastaba was built. Probably the debris cleared from Cem. G 1200 and Cem. G 2100 was also dumped out to the north. That from Cem. G 4000 seems, on the other hand, to have been piled south of the massive wall which bounds that cemetery on the south. A certain amount of rubbish was undoubtedly used in the filling of the cores.

The cores south of the First Pyramid, excavated by Professor Junker, Cem. G I S, were also founded on rock, but according to Junker's observations were built in cleared areas only a little larger than the projected core, or in foundation trenches. This fact has a special significance for the dating of that cemetery.

b. Kinds of Building Stone used in Core-mastabas

The stone used in all the cores of these six cemeteries was of local origin. The fine white limestone from the Mokattam Hills was used, however, in the casing, the stone chapel, and the lining of the burial-chamber, which were all constructed after the cores. The local stone is of the two chief varieties of coarse nummulitic limestone, a softer yellow-drab stone, and a harder grey stone, and both of these occur in several qualities. In general the stone blocks used in each core are of fairly uniform quality and obviously from the same quarry. But a number of the massive cores of later construction contain stones of both the yellow-drab and the grey stone. The yellow-drab stone occurs as follows:

- (1) In the 10 cores of Cem. G 1200, of a harder quality; core type II a.
- (2) In the 5 western cores of Cem. G 2100, also of a hard quality; core types II a and II b.

- (3) In the 5 earliest cores of Cem. G 4000, of hard quality; type II b.
- (4) In the facing of 4 massive cores, harder quality; type III.
- (5) In the 6 eastern mastabas of Cem. G 2100, softer quality; type II a.
- (6) In G 4860 and the 25 cores of the Echelon Cemetery, poorer stone; type II a, usually with 2 shafts.
- (7) In the Eastern Field, in the masonry filling the old Cheops quarry east of his temple to form the foundation of the causeway corridor.
- (8) In the 5 massive cores added to the cemetery of twin-mastabas in the Eastern Field; a softer quality mixed with grey blocks.

The hard nummulitic stone occurs as follows:

- (1) In the core-work of the 3 large and 7 small pyramids, in the core-walls of the temples of those pyramids, and in the causeways.
- (2) In the great boundary wall south of the Western Field.
- (3) In the mastaba cores of Cem. G 4000, excluding the first 5 and the last cores; 46 cores of type IV i.
- (4) In the 12 original cores of the Eastern Field; type IV i.
- (5) In the reconstructed cores of the 8 twin-mastabas of the Eastern Field; type IV ii and IV ii + IV iii.
- (6) In the additional core-work added to 3 mastabas of type II a in Cem. G 1200, and to 2 mastabas of type II b in Cem. G 4000.
- (7) In the 5 additional cores added to the cemetery of twin-mastabas, mixed with yellow-drab stone; type IV iii and IV iv.
- (8) In the cores of Cem. G I S, of which some contain a mixture of yellow stone.

It is obvious that the various beds of stone were being worked practically simultaneously during the construction of the nucleus cemeteries.

c. Method of Construction of the Core-mastabas

The construction of each core appears to have been carried out in approximately the same manner. The preparation of the surface for the first course is difficult to determine without tearing down the retaining wall, but apparently an emplacement is roughly dressed in the rock surface. On this was set the first course of the retaining wall and the space within immediately filled with rubbish to the top of the course. The top of the course was roughly dressed and the second course set on top of the first and again filled in behind. Thus the construction of the courses and the filling of the interior proceeded practically *pari passu* both for the small-course cores and for the massive cores. The casing of the shaft above the rock was carried out simultaneously course by course with the retaining wall and with stone of the same size and quality. In the case of the solid mastabas of type II b the solid stone-work was built *pari passu* with the retaining wall. The joining of the stones in the small-course retaining wall was moderately good and showed a certain amount of chinking with coarse pinkish plaster, so that the exterior appearance of all cores of type II a, II b, and III was that of a well-finished wall of stepped vertical courses. In the massive cores, while the courses are well fitted horizontally, the stones in the course are not carefully fitted together. The outward appearance of the whole is not that of a well-finished structure, and it may be safely assumed that all the cores of type IV were intended to be faced as type III or cased in white limestone.

2. THE TYPES OF MASTABA CORES

The mastabas of Dyns. I-III, with the exception of those in the enclosure of the Zoser pyramid, were of c.b. of two types of construction.

I a: The filled mastaba with a retaining wall of c.b. and a filling of sand, gravel, or rubbish; in the largest and most important of the filled mastabas the interior was divided by c.b. walls into compartments which were filled with sand, gravel, or rubbish; from Dyn. I to Dyn. VI.

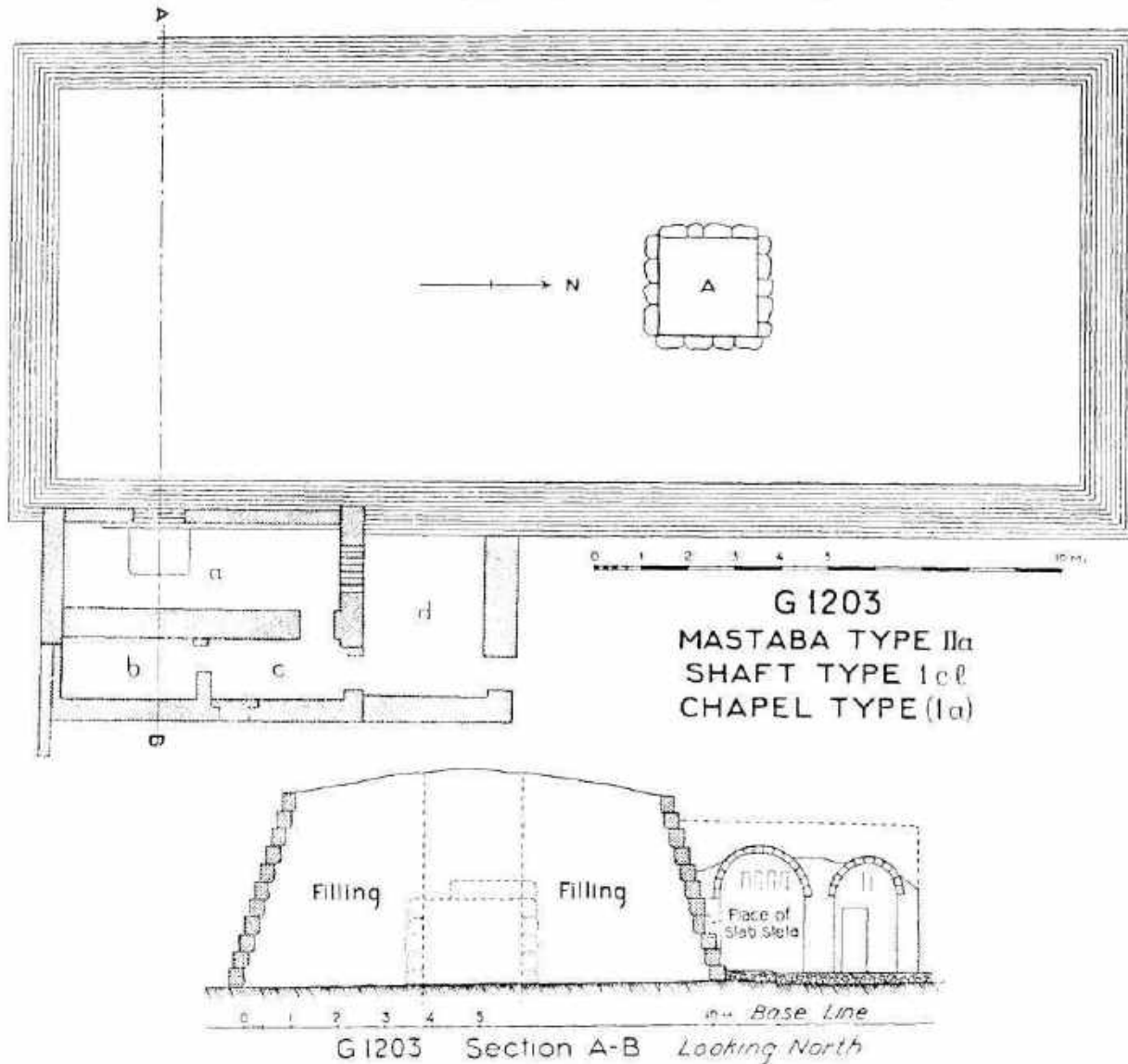


Fig. 1

I b: A similar mastaba, filled solid (or more or less solid) with c.b., roughly laid as headers; private mastabas from the beginning of Dyn. III: both these types were plastered outside with mud which in turn was coated with white plaster.

The exception, the mastabas in the enclosure of the Zoser pyramid, are stone-cased rubble cores. The type with rubble-faced core does not appear among the earliest stone mastabas at Giza. The types of core-mastabas are as follows:

- (1) Type II a: a filled mastaba (as I a) with a retaining wall of small drab limestone blocks in low-stepped courses, filled with sand, gravel, rocks, and rubbish; no niches; slab-stela; single burial-shaft, the upper part of which, through the filling of the mastaba, is cased with stone blocks similar to those of the retaining wall; 2-m. burial-shaft (Fig. 1).

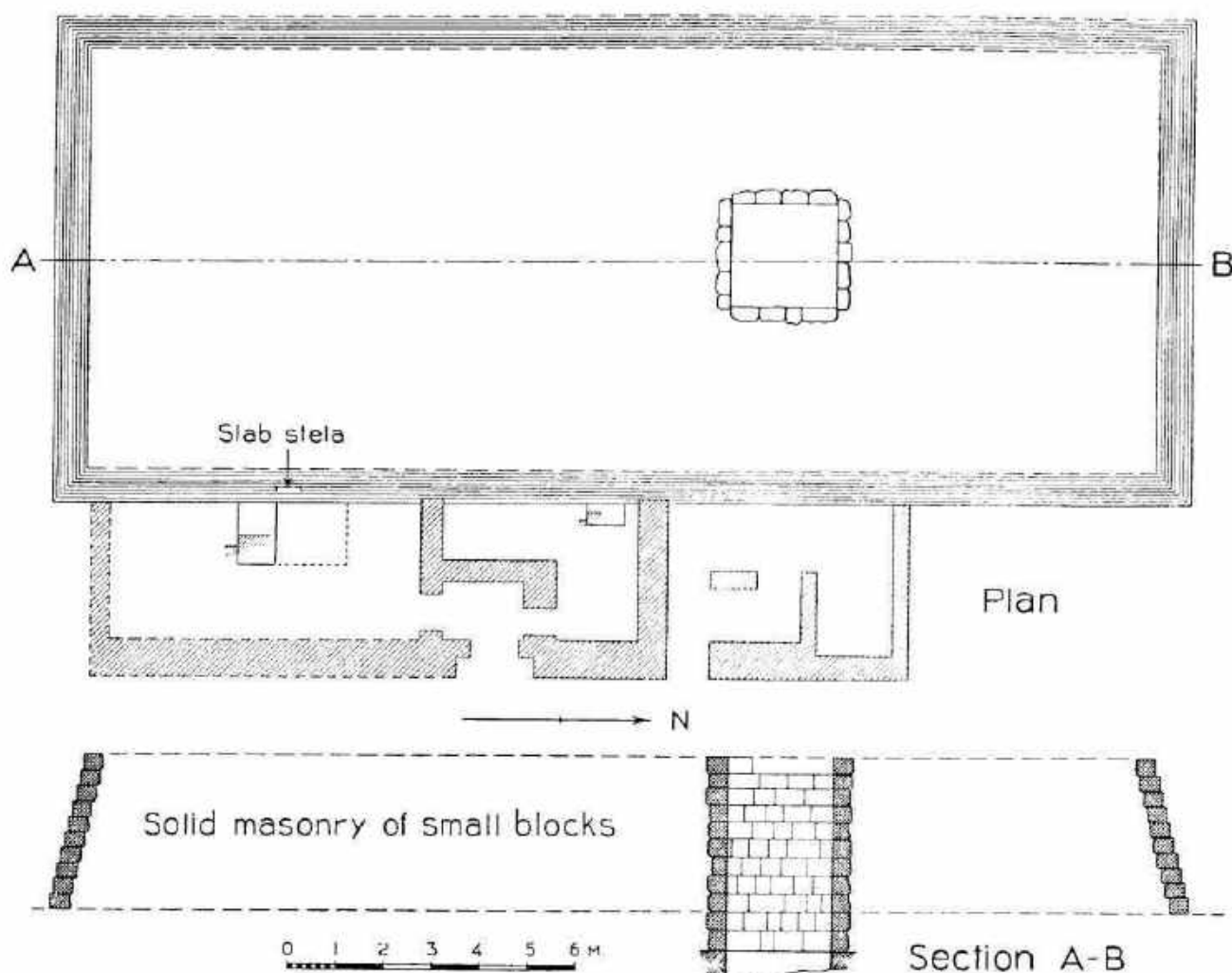
Cem. G 1200: 10 mastabas.

Cem. G 2100: 10 mastabas, like those in G 1200.

Cem. G 4000: 1 mastaba: 2 2-m. shafts.

Cem. en Échelon: 25 mastabas: 1 or 2 2-m. shafts.

No examples occur in the Eastern Field, Cem. G 7000.



MASTABA G 4250: JUNKER, GIZA II S page 193

Fig. 2

- (2) Type II b: in outward appearance like II a, but filled solid with small stone blocks (cf. I b); no niches; slab-stelae (Fig. 2).
 G 4000: 2 2-m. shafts.
 G 4150, 4160, 4250, 4260: 1 2-m. shaft: slab-stela.
 G 2130: 1 2-m. shaft.
- (3) Type III: retaining wall of large blocks of grey nummulitic limestone set in high-stepped courses and filled with gravel and rubbish, or more or less solid with massive blocks; the massive stepped core is faced with small blocks of drab limestone giving the same outward appearance to the core as that of type II a and b; slab-stela in 2 out of 4.

- i: without recess for interior chapel: G 4350, 4140 (Fig. 3).
 - ii: with recess perhaps broken in massive core, but reconstructed with massive masonry and faced with small-stepped courses: G 2000, G 7410+20 (Fig. 4).
- (4) Type IV: massive core like type III, but without the facing of small blocks; slab-stela in rows 5 and 6 of Cem. G 4000.
- i: without recess for the interior chapel: G 4360-4760, G 4450-4850, G 4240-4840. All the remaining cores in Cem. 4000, except 3 cores altered in Dyns. IV-V. Twelve original cores con-

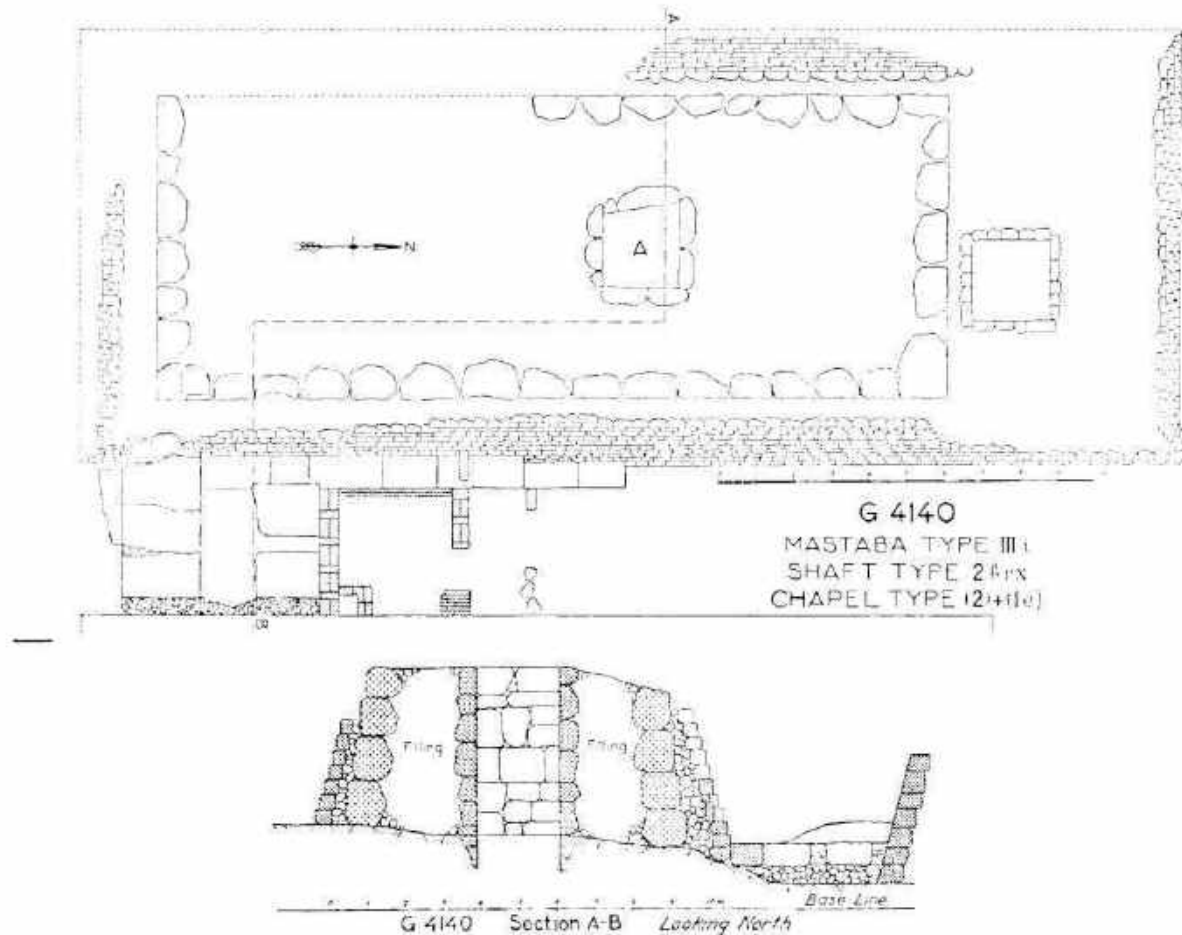


Fig. 3

structed in Cem. G 7000 and incorporated with alterations in mastabas G 7110+20 to 7410+20 and G 7130+40 to G 7430+40. Probably also the 10 cores in Cem. G 1 S (Fig. 5).

- ii: massive core-mastabas with recess broken and reconstructed later. The 12 original cores in Cem. G 7000 when they were incorporated in the 8 twin-mastabas of that cemetery and a few mastabas in G 1 S (Fig. 6).
- iii: with recess for interior chapel constructed in the massive core, *ab origine*. The additions to the southern row of 4 original cores in the Eastern Field made when these were reconstructed as twin-mastabas; G 7140-7440 (Fig. 7). Three outlying cores in the Eastern Field; G 7510, 7450, 7350 (Fig. 8).
- iv: massive core, the casing of which has been prolonged southwards to include an interior chapel; G 7650, 7530+40 (Fig. 9).

These core types are used also to designate the finished mastabas which contain those cores.

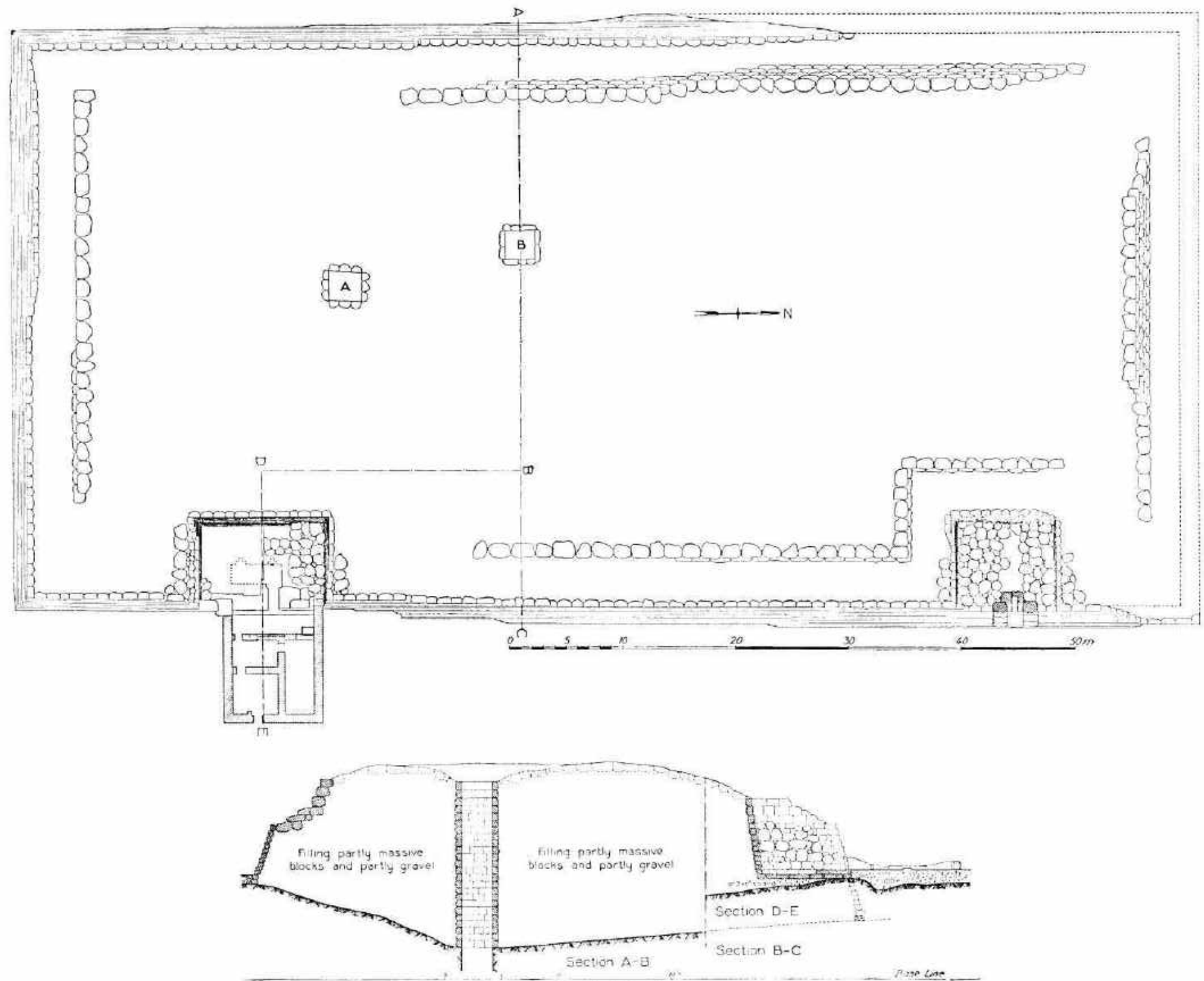


Fig. 4. G 2000

For the sake of convenience I give here the type designation used for mastabas of other later types, including those of Dyns. V and VI:

- (5) Type V: a filled mastaba with a retaining wall consisting of two layers of stone: the outer layer is of fine white limestone dressed to a sloping surface, and supported behind by a nummulitic block; built course by course and filled in *pari passu*; interior chapel of type III of white limestone; G 7050 (Fig. 10).

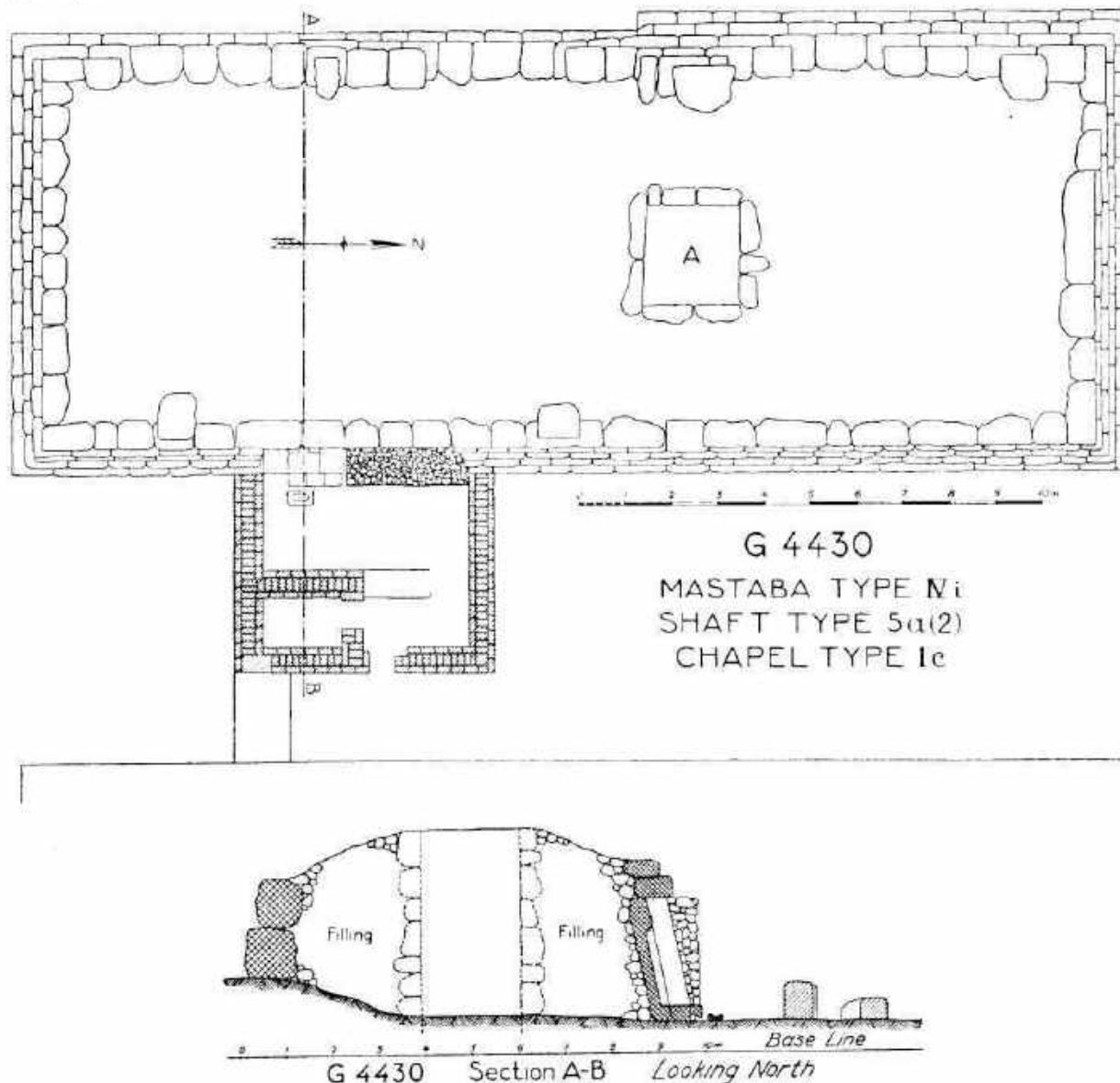


Fig. 5

- (6) Type VI: with interior chapel of type (3) and subsidiary northern niche:

VI a: filled mastaba with grey nummulitic retaining wall of large slabs set sloping and dressed to a sloping surface; filled with rubbish or more or less solid with massive grey blocks; 2 2-m. shafts.

Examples in Cem. G 7000: the last princely mastabas added to the nucleus cemetery;

G 7550, 7660, 7750, 7760, 7060, 7070, 7810, 7820 (Fig. 11).

VI b: similar form of z-masonry with or without rubble-faced core.

VI c: as VI b with retaining walls of u- or zu-masonry; no examples.

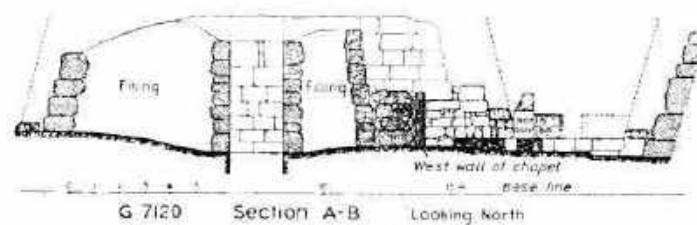
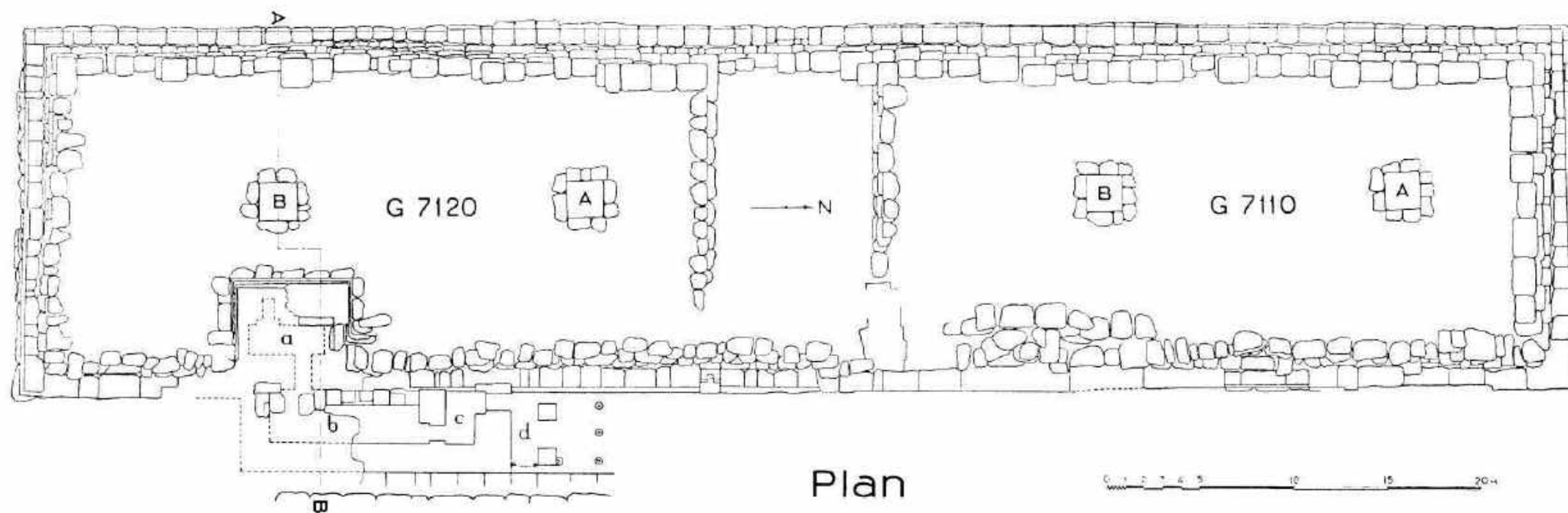
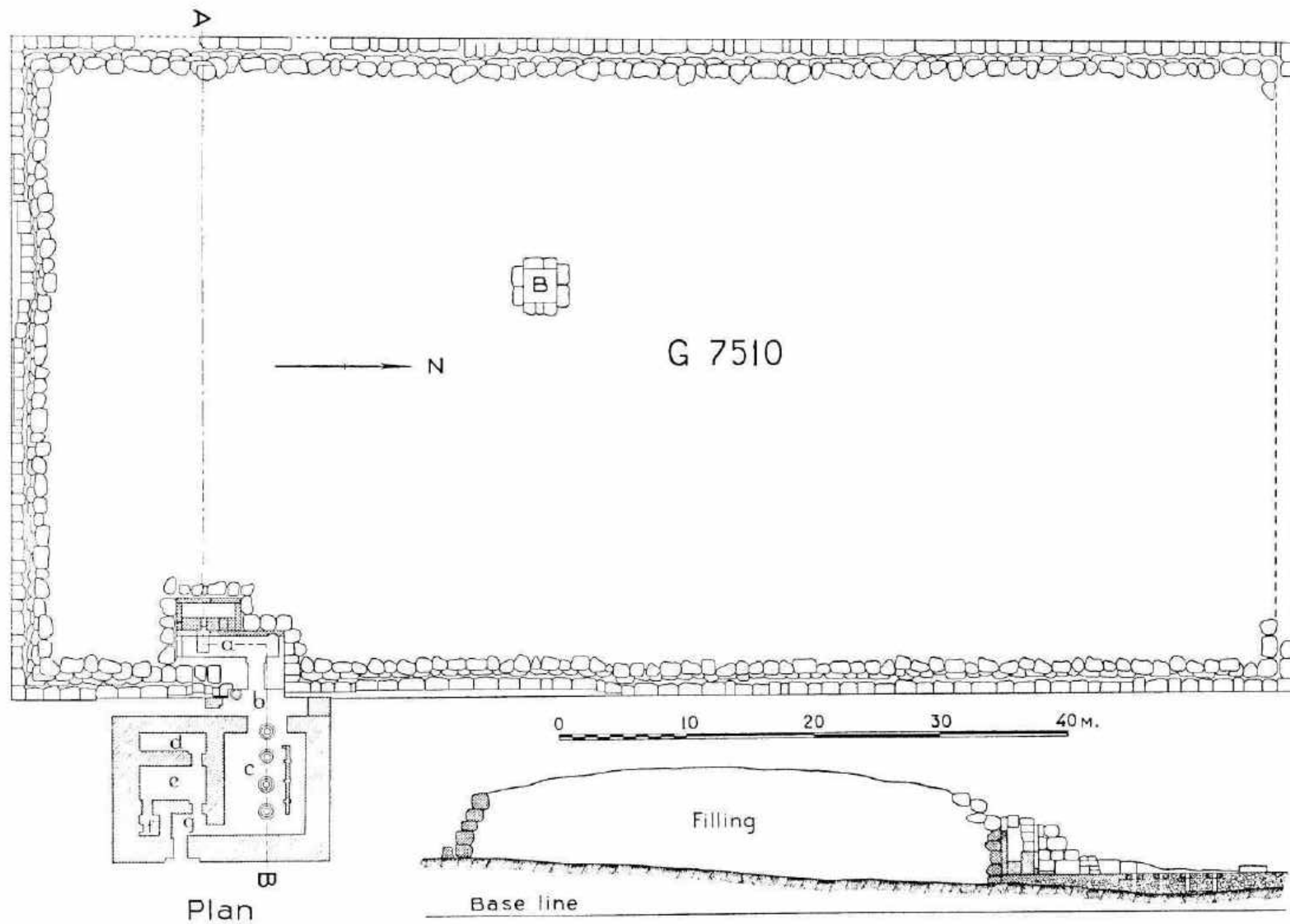
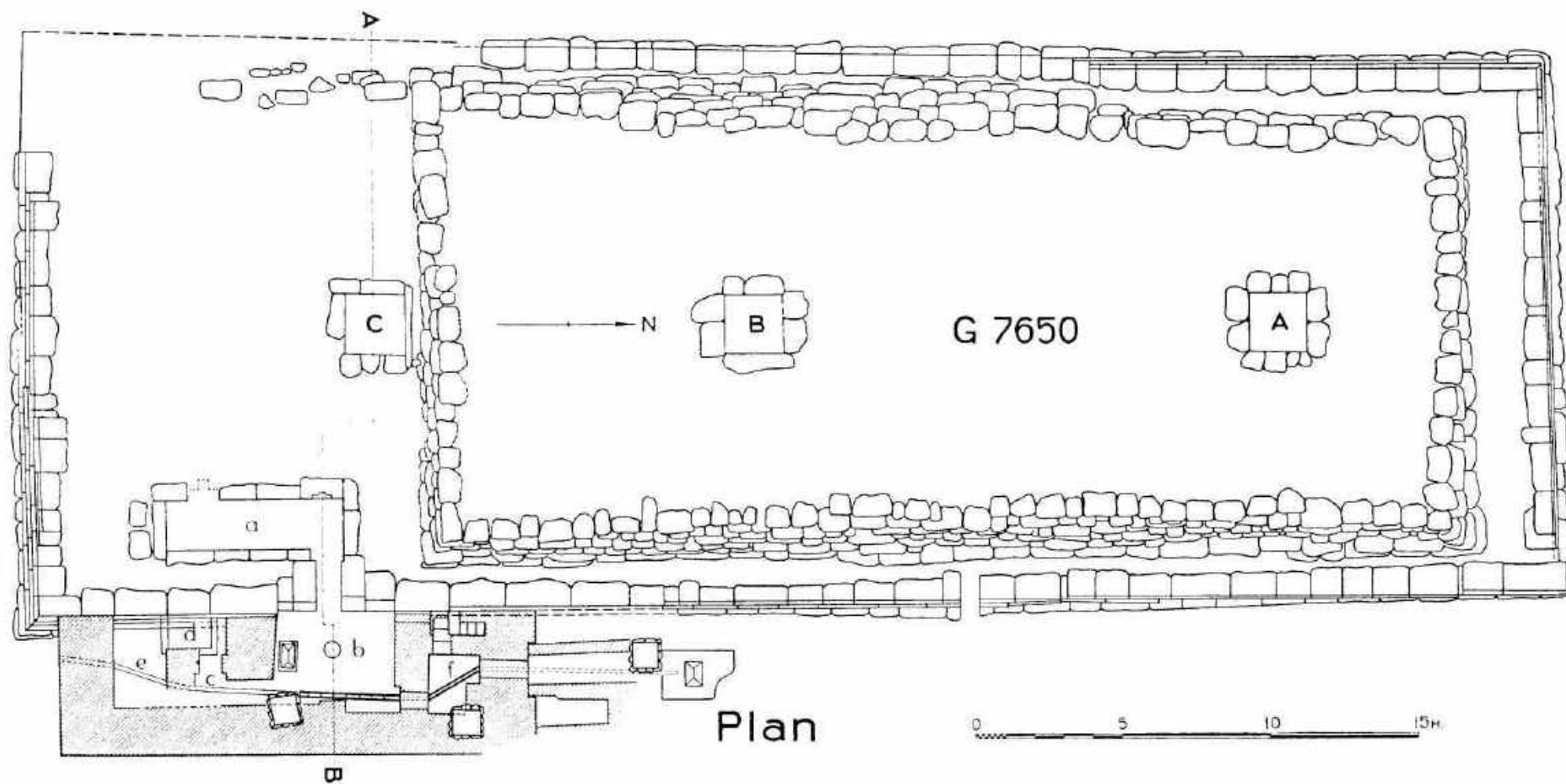


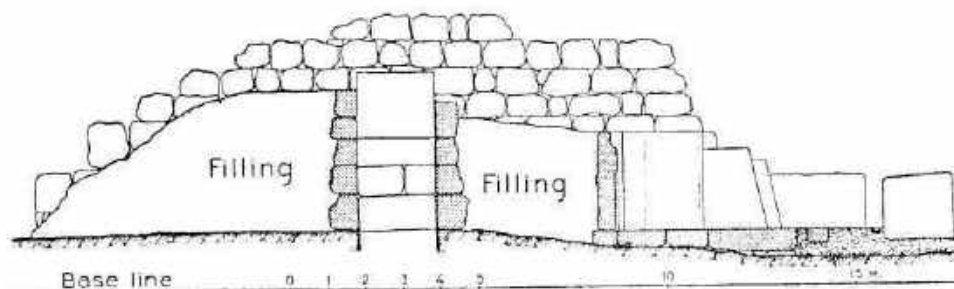
Fig. 6



Section A-B Looking North
Fig. 8. G 7510



Plan



Section A-B Looking North

Fig. 9. G 7650

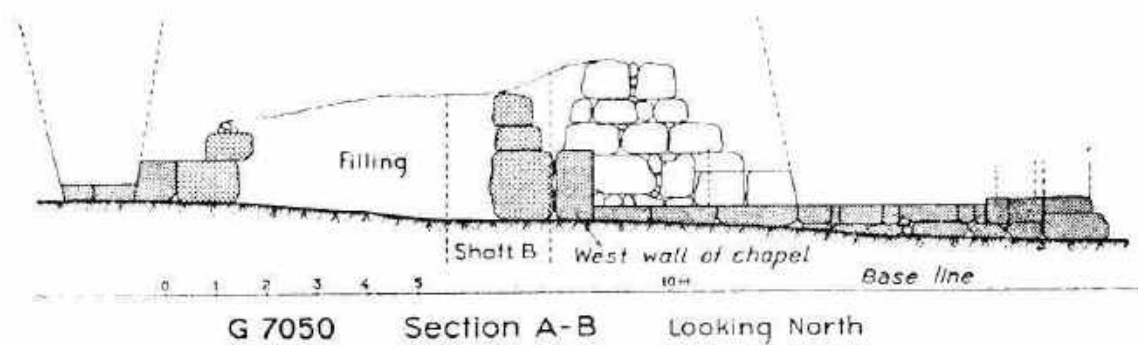
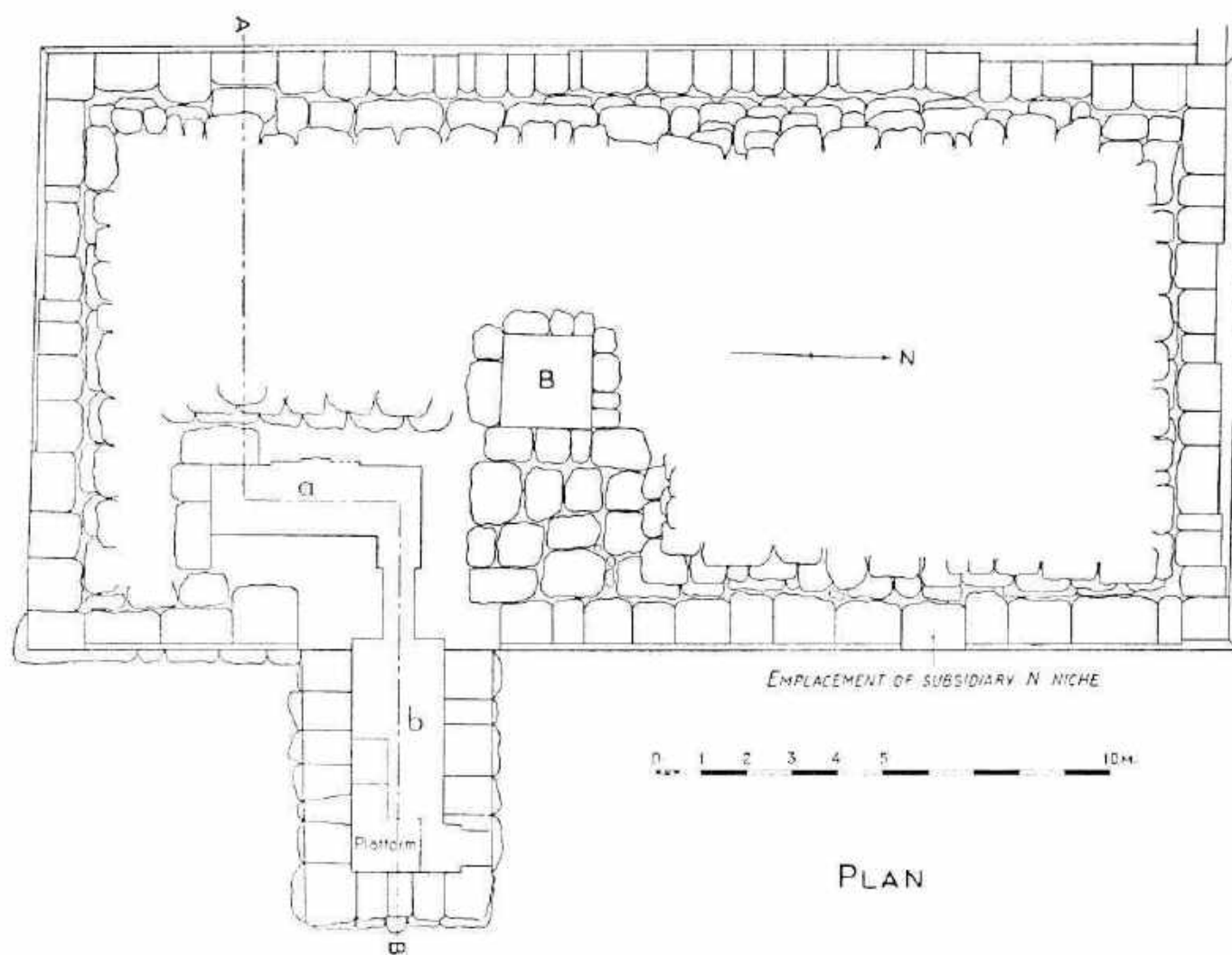


Fig. 10. G 7050

VI d: as VI b, built of rubble-faced core-work plastered with mud; no examples.

VI e: like VI b, built with retaining walls of c.b., or rubble core cased on one or more faces with c.b., or solid c.b. mastaba; G 1457 (Fig. 12).

(7) Type VII: filled mastaba or core-mastaba with interior chapel of type (4).

VII a: constructed of large nummulitic blocks as VI a; G 1031.

VII b: constructed of z-masonry, as VI b; G 1020 (Fig. 13).

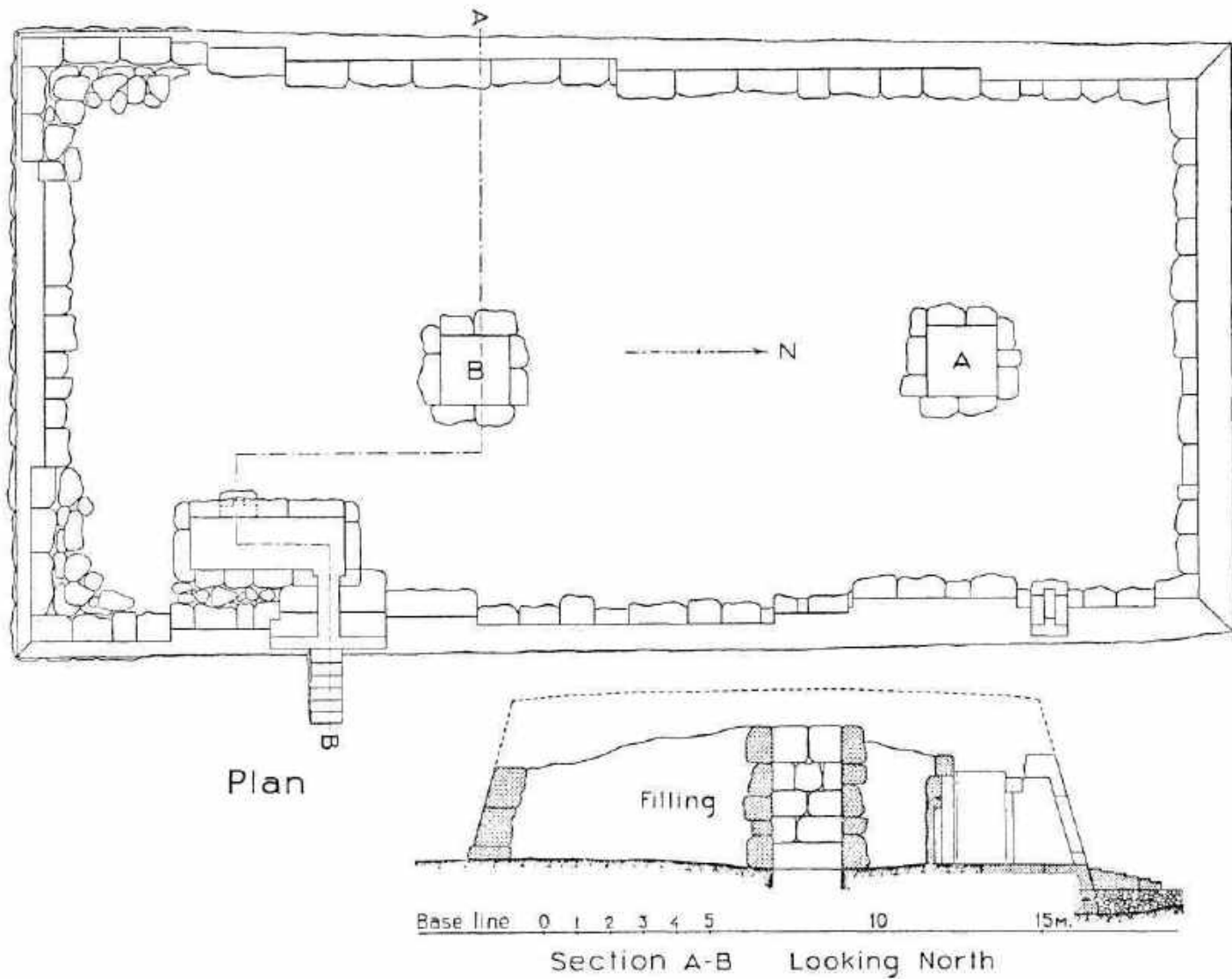


Fig. 11. G 7550

VII c: constructed of u- or zu-masonry, as VI c; no example.

VII d: constructed of rubble-faced core-work, as VI d; no example.

VII e: constructed of c.b. as VI e.

(8) Type VIII: with interior chapel of type (5), (6), or (7).

VIII a: built of nummulitic blocks of grey stone.

VIII b: built of z-masonry; G 1151.

VIII c: built of u- or zu-masonry; G 1029, G 1047 (Figs. 14, 15).

VIII d: built of rubble-faced core-work; no examples.

VIII e: built of c.b.

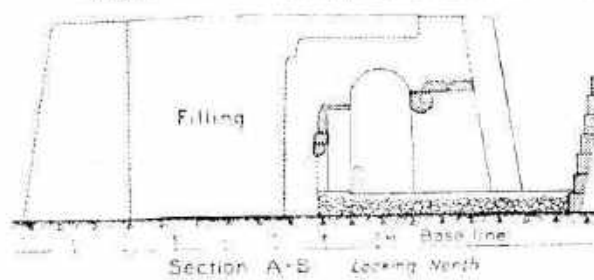
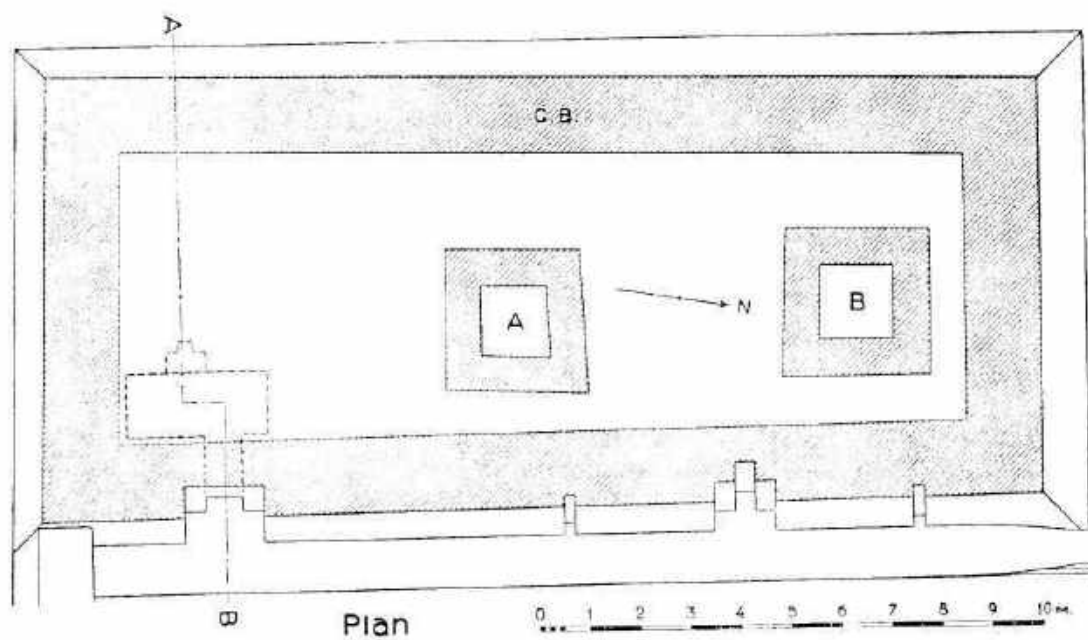


Fig. 12. G 1457

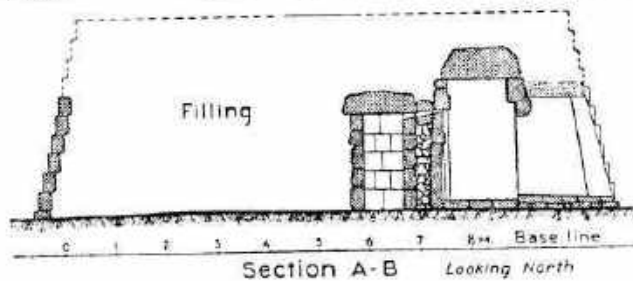
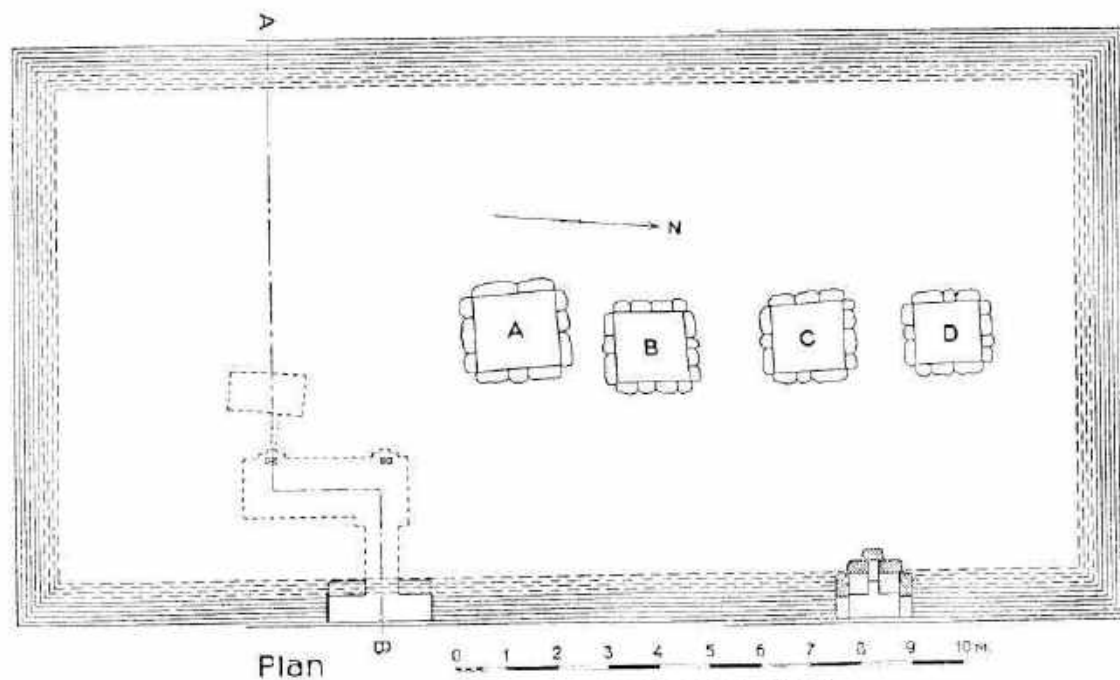
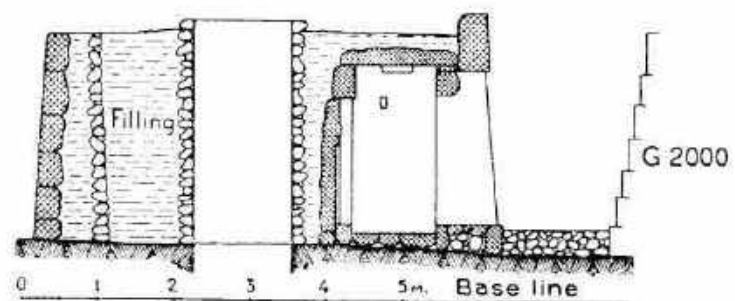
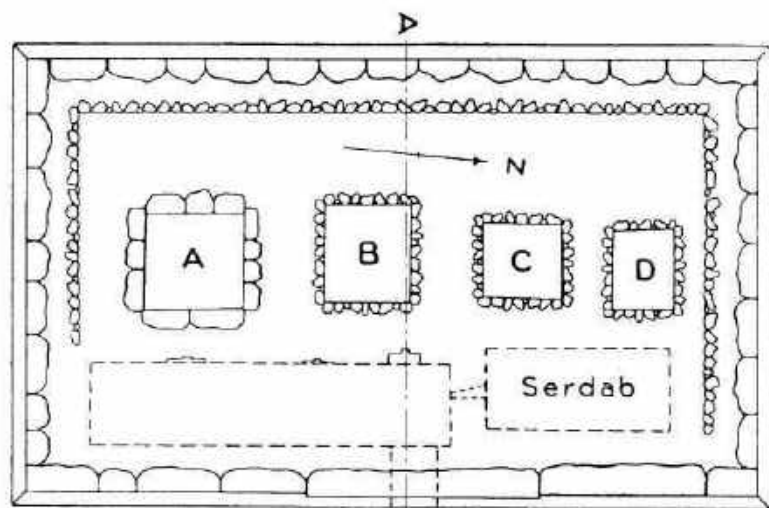
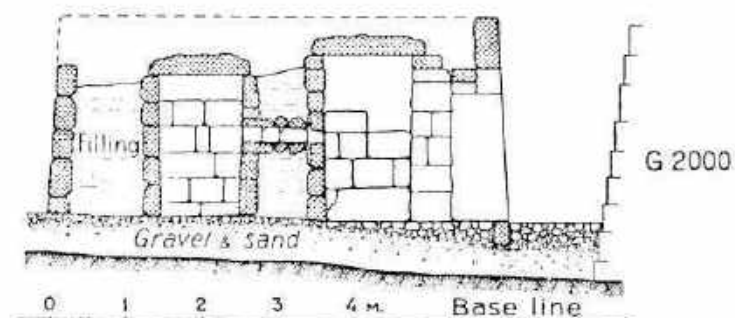
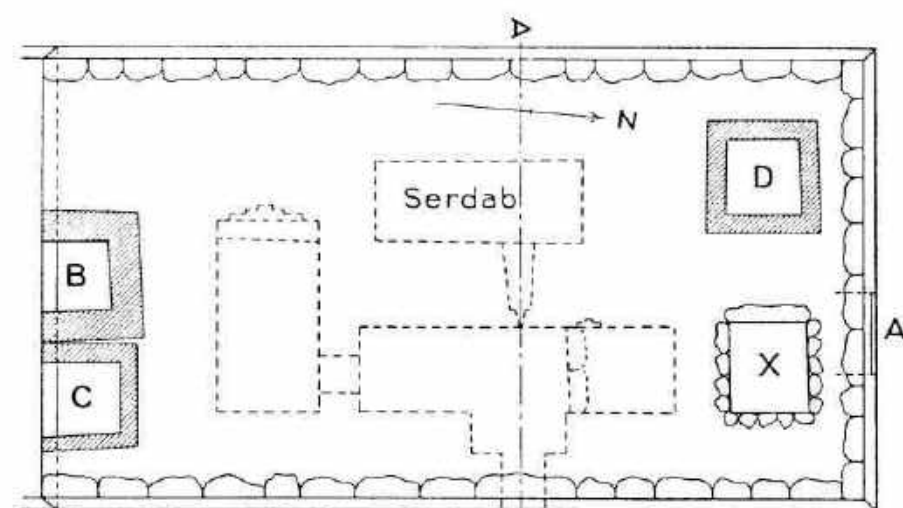


Fig. 13. G 1020



Section A-B Looking North

Fig. 14. G 1029



Section A-B Looking North

Fig. 15. G 1047

- (9) Type IX: with exterior chapels of type (8).
 IX a: built of grey nummulitic slabs; G 5230.
 IX b: built of z-masonry.
 IX c: built of z- or zu-masonry.
 IX d: built of rubble-faced core-work.
 IX e: built of c.b.
- (10) Type X: mastaba with niches and open-air chapel; chapel type (9 a, b, or c).
 X a: built of grey nummulitic blocks.
 X b: built of z-masonry.
 X c: built of u- or zu-masonry.
 X d: built of rubble, plastered with mud.
 X e: built of c.b.
- (11) Type XI: mastaba with no niches preserved, with exterior open-air chapel type (9 d).
 XI a: built of grey nummulitic blocks.
 XI b: built of z-masonry.
 XI c: built of u- or zu-masonry.
 XI d: built of rubble, plastered with mud.
 XI e: built of c.b.

These types of cores (types I–VI) bear in themselves certain evidence as to their chronological order. The enlargement of core types I a and I b with additional core-work of type IV iii is decisive as to the order of those types (Fig. 16). The existence of types IV i, ii, and iii with the evidence of the addition of type IV iii to type IV ii in Cem. G 7000 proves clearly the order of these three subtypes. The use of low-stepped courses of small stones as the facing or retaining walls of types II a, II b, and III draws these three types into one group, for the stone and the construction of the stepped facing walls are clearly similar and are not found outside the Western Cemetery of Cheops (except G 7410 + 20, of type III). The use of the massive core-work in types III and IV draws these two types together.

All the cores in the Cems. G 1200, G 4000, and G 2100 have one 2-m. shaft except G 2100, G 4000, G 4860, and G 2150. The mastabas with two shafts are derived from twin-mastabas for husband and wife. Four of the one-shaft mastabas of types II a and III have an annex built against the north end to contain the burial-shaft of the lesser member of the pair (husband or wife), a modification of the twin-mastaba type. The two-shaft mastaba arose without doubt out of the twin-mastaba. The earliest examples at Giza, apart from the mastabas with annexes, were the eight twin-mastabas of Cem. G 7000. As reconstructed, the cores of these northern four consisted each of two original cores of type IV i, joined with massive masonry and remodelled with two recesses for two interior chapels (man and wife). The shafts as originally planned appear to have been one shaft cased through the filling in each of the original cores of type IV i. This shaft was just north of the place of the offering-chapel in the axis of the core, that is, shaft B in G 7110–7410 and shaft B in G 7120–7420. The B shafts of the northern part of the four twin-mastabas were those actually finished and used for burials as far as they were used (not used in G 7110). The B shaft in the man's part was never used, but when the two old cores were joined up to form the core of each twin-mastaba, a new shaft was constructed and used north of B shaft. This is the A shaft. The position of the burial-shaft was probably due to a shift in the position of the chapel. The old core had been intended for an exterior chapel close to its southern end. When the twin core was constructed and the new interior chapel built farther north, the new shaft was made in the proper relative position to the new chapel. The chapel of the wife's part was shifted a little to

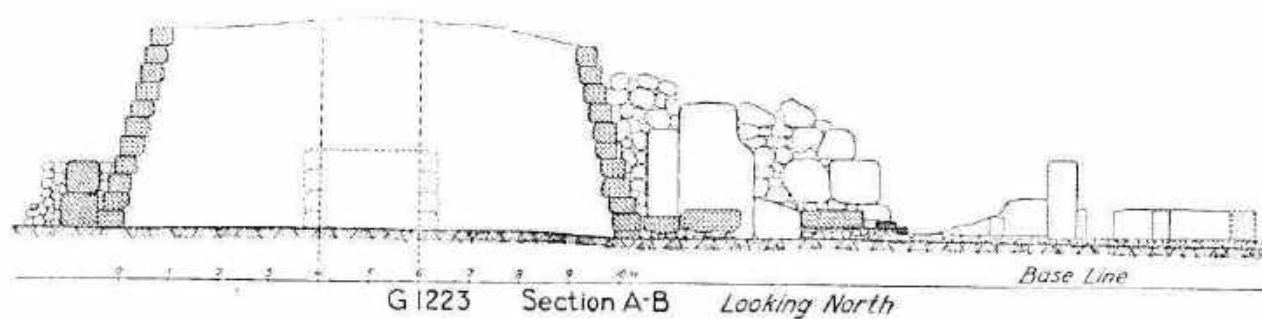
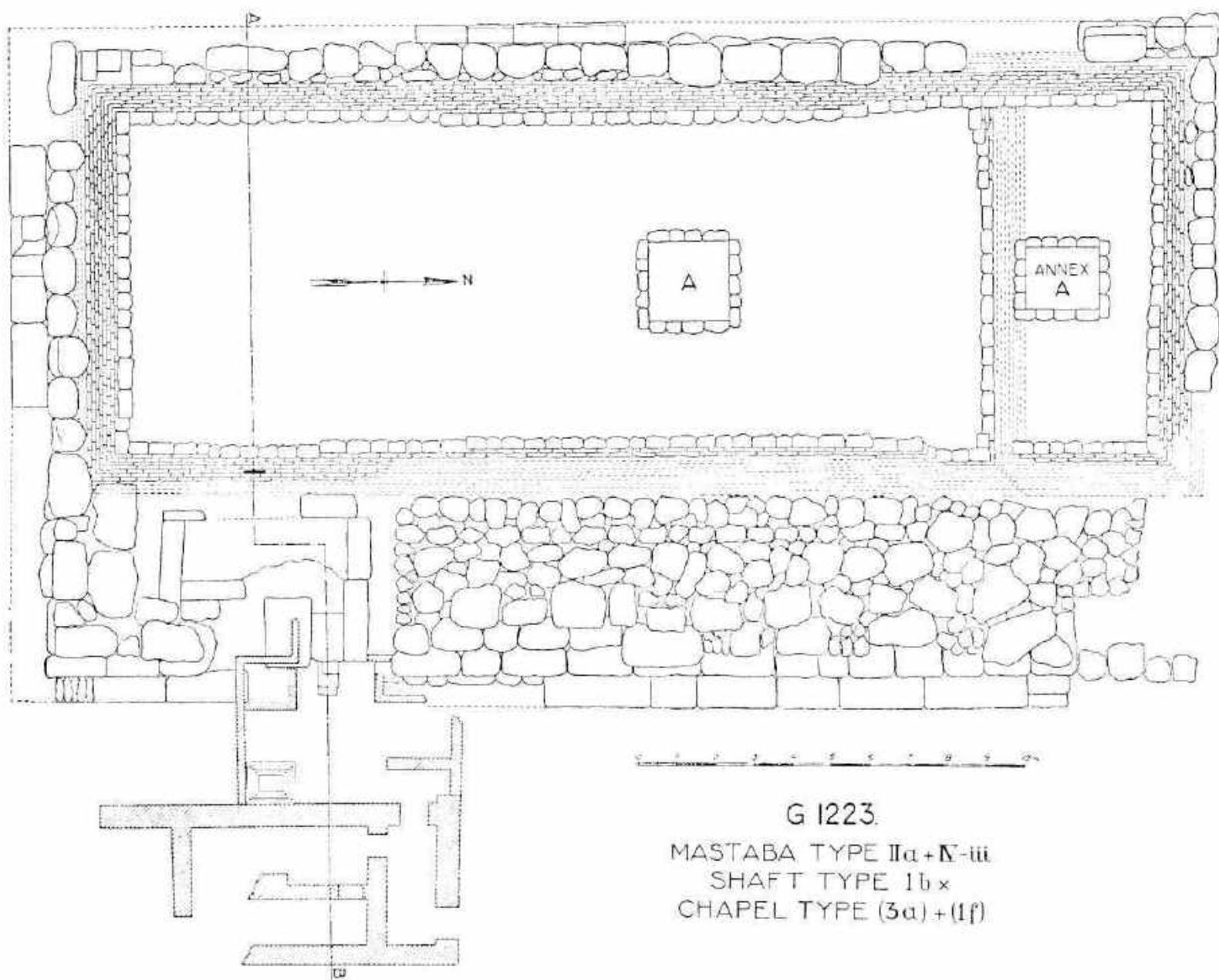


Fig. 16

the south, and thus the old B shaft in the wife's part was left in a proper relative position and therefore used. The A shaft was not constructed except in G 7110, and that never finished. No A shaft was constructed in the northern part of the other three twin-mastabas.

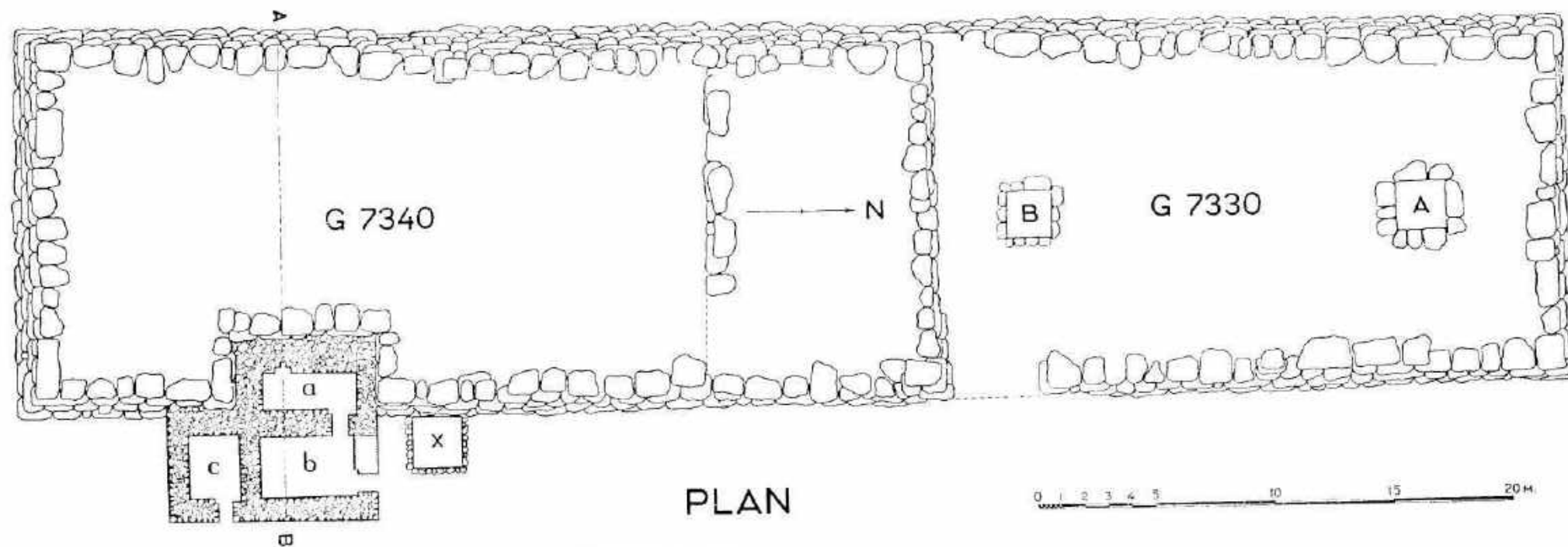
Each of the four southern twin-mastabas had two large shafts both in the original core of the old nucleus cemetery. Added south of this was a large block of massive core-work (type IV iii) with recess for the southern chapel, and containing no shaft (Fig. 17). These mastabas were obviously designed as two-shaft mastabas and enlarged after the construction of the shafts. The peculiar character of the southern twin-mastabas was due apparently to the later date at which they were finished. It will be remembered that only one of them (G 7130+40) was finished with the fine white casing and the two interior chapels which mark the four northern twin-mastabas.

LIST OF ONE-SHAFT MASTABAS:

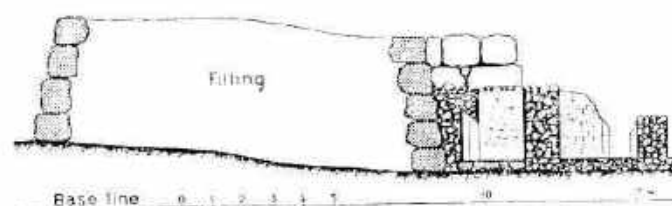
- G 1203, 1205, 1207, 1209, 1227, 1233, 1235; type II a.
- G 1201, 1223, 1225; type II a+IV iii.
- G 2110, 2120, 2135, 2140, 2155, 2160, and 2170; type II a.
- G 2130; type II b.
- G 4160, 4260, 4250; type II b.
- G 4150; type II b+IV iii.
- G 4350, 4140; type III.
- G 2000; type III ii; one shaft but designed for two shafts.
- G 4360-4760, 4450-4850, 4240, 4340, 4540-4840, 4330-4830, 4320-4820, 4310-4710; type IV i.
- In the Échelon Cemetery, G 4970, 4990, 5060, 5160, 5170; type II a.
- Cem. 7000, the 12 original cores; type IV i.
- Cem. G 7000, the 4 northern twin-mastabas as finally used; type IV ii.
- G 7510; probably intended as two-shaft mastaba; type IV iii.
- G 7050; Queen Nefert-kauw; type V.
- G 7690; type IV iii.
- G 5110; type IV iii.
- G 5210; type IX a (1).
- G 2210; type II a+IV iii.

LIST OF TWO- AND THREE-SHAFT MASTABAS:

- G 4000; type II b+IV iii; originally one shaft with unfinished S shaft added as afterthought.
 - G 4860; type II a; on north, 2-m. shaft on south smaller shaft.
 - G 2100; 3 shafts; two shafts made later; type II a.
 - G 2150; type II a: 1 2-m. shaft; altered to type VII b with smaller shaft added on south.
 - G 2220; 3 pits (?); type IV iii.
- The above seven mastabas, excepting G 4860, were planned as 1-shaft mastabas.
- G 4910-4940, 4950-4960 (?), 4980, 5010-5050, 5070, 5080 (3 pits), 5090, 5130, 5140, 5150 (3 pits), 5180, 5190; type II a.
 - Cem. G 7000: southern row of 4 twin-mastabas; appear to have two shafts in the northern part; type IV ii+IV iii.
 - Cem. G 7000: 7650; type IV iv; 3 pits (1 unfinished).
 - G 7450; type IV iii; one shaft unfinished.
 - G 7350: 3 pits; type IV iii; two shafts, one shaft unfinished.



PLAN



Section A-B Looking North

Fig. 17. G 7330 + G 7340

G 7060, 7070, 7550, 7660, 7760, 7750, 7810, 7820 (?); type VI; two shafts.

G 7670; type VI; two shafts.

G 5230; type IX; two shafts.

Most of the cores in Cem. G I S.

In Dyns. V and VI the multiple-shaft mastaba was in common use, but cases still occurred of 1-shaft mastabas. In the nucleus cemeteries the two- or three-shaft mastaba was introduced after the reign of Cheops.

The mastaba-cores of the Échelon Cemetery with a few exceptions have two shafts, and also all cores of type IV iii and type VI. It is obvious that the two-shaft type, except in twin-mastabas, is later than the one-shaft type.

Taking all the factors so far described, the order of the types of cores would appear to be as follows:

- (a) Types II a and II b of the one 2-m. shaft type.
- (b) Cores of type III, with one 2-m. shaft.
- (c) Cores of type IV i, with one 2-m. shaft.
- (d) Mastabas of type IV iii, with two shafts.
- (e) Cores of type II a, of poor stone with two burial-shafts.
- (f) Mastabas of type VI, with two or more shafts.

3. THE SIZES OF THE CORES AND THE WIDTH OF THE STREETS

a. The Sizes of the Cores

The beginning of the Giza Necropolis is represented by the mastaba cores of the five nucleus cemeteries. In the examination of these nucleus cemeteries it is necessary first of all to determine the relative sizes of the original cores and the width of the streets and avenues which separate them. The measurements which I use are those taken on the foundation-line of the cores. These are subject to individual variations owing to the slope of the rock-surface. The ancient Egyptian masons measured on a fixed base-line (*nfrw*), on which they co-ordinated the measurements of the mastabas of each group, but these base-lines are not now determinable. It may be assumed that the foundation measurements of the mastabas are a little greater than the *nfrw* measurements of the block in which they occur. There are also variations in the width of the cores, due apparently to arbitrary departures from the plan on the part of the masons.

The following table gives the mean measurements of the original cores of the four western cemeteries, excluding four mastabas of unusually large size, two mastabas of smaller size, and two mastabas of type III i (see below):

	N-S	E-W	Prop.	Area
Cem. G 1200: 9 mastabas, type II a	23.9	10.5	1/2.3	251 sq. m.
G 1203, 1205, 1207, 1209, 1223,				
G 1225, 1227, 1233, 1235.				
Cem. G 2100: 7 mastabas, type II a	24.0	10.87	1/2.2	261.21 sq. m.
G 2135, 2140, 2150, 2155, 2160,				
G 2170, 2210.				
Cem. G 4000: 4 mastabas, type II b	23.4	9.8	1/2.05	230 sq. m.
G 4150, 4160, 4250, 4260.				

	N-S E-W	Prop.	Area
Cem. G 4000: 34 mastabas, type IV i	23.4 × 9.9	1/2.05	231 sq. m.
G 4360-4760, 4450-4850, 4240-4840,			
G 4330-4830, 4320-4820, 4310-4710.			
Cem. G 4000: 1 mastaba, type II b	24.4 × 11.2	1/2.2	279 sq. m.
G 4860.			
Échelon Cem.: 25 mastabas, type II a.	23.5 × 10.4	1/2.3	244 sq. m.

Leaving out the two mastabas (G 4350 and 4140) of type III i, the mean for the remaining eighty mastabas is 23.5×10.22 , 1/2.17, 240.5 sq. m. This final mean of eighty mastabas of three different types presents an approximation of the size on which all these mastabas were laid out. It is obviously not the exact size as measured on the *nfrw* base-line, but it proves without doubt that all these mastabas were designed to the same size. In the absence of the *nfrw* measurements, I am obliged to take the mean measurements as the nearest attainable approximation, and I designate it as the size of the normal mastaba core of the Western Cemeteries.

The two mastabas of type III i consist of a massive core similar to IV i, but faced with a stepped wall of small stones similar in appearance to the retaining wall of types II a and II b. The measurements of these two mastabas are as follows:

G 4350: massive core	22.4 × 9.2	1/2.4	206.0 sq. m.
faced core	25.2 × 11.6	1/2.2	292.3 sq. m.
G 4140: massive core	22.55 × 9.6	1/2.35	216.48 sq. m.
faced core including annex	29.4 × 11.45	1/2.57	336.63 sq. m.

A comparison of these measurements with those of the adjacent massive cores of type IV i indicates that the massive core of G 4350 was built smaller with the intention of facing it with the small-stepped masonry, but by a natural miscalculation of the width of the facing the faced core was slightly wider than the adjacent cores. In the case of G 4140 the massive core is not smaller than the other cores of the same row, while the faced core is larger. It is probable, therefore, that in this case the facing was added to improve the massive core. The slab-stela was set in the facing and a casing of white limestone of type y had been begun. It is possible that the cores in row 4 immediately east of G 4140, which are also of small size, were intended to receive a facing like that of G 4140 which was never carried out.

In addition to the 80 mastabas of normal size there are 7 mastabas which depart from the norm, 5 larger and 2 smaller. The measurements of these 7 mastabas are as follows:

(1) G 1201	38.8 × 17.2	1/2.1	667 sq. m.	type II a
(2) G 2000	104.8 × 52.8	1/2.0	5,533.0 sq. m.	type III ii
(3) G 2100	21.6 × 12.0	1/1.8	259 sq. m.	type II a
(4) G 2110	21.6 × 12.0	1/1.8	259 sq. m.	type II a
(5) G 2130	31.2 × 12.8	1/2.43	399.36 sq. m.	type II b
(6) G 2120	28.0 × 12.4	1/2.25	347.2 sq. m.	type II a
(7) G 4000	47.2 × 24.0	1/2.3	963 sq. m.	type II b

These departures from the normal have a significance which will be considered in dealing with the grouping of the mastabas.

Turning to the later cemetery of more important tombs east of the Cheops pyramid, a marked increase in the normal size is to be noted. The twelve original cores, which were afterwards

incorporated in the eight twin-mastabas, the tombs of the important children of Cheops, are here given in detail:

Mastaba	N-S E-W	Prop.	Area	Type
G 7110	36.5 × 17.25	1/2.11	629.62 sq. m.	IV i
G 7210	36.0 × 17.0	1/2.11	616 sq. m.	IV i
G 7310	35.0 × 16.5	1/2.12	577 sq. m.	IV i
G 7410	34.5 × 15.0	1/2.3	518 sq. m.	IV i
G 7120	36.5 × 17.5	1/2.08	638.75 sq. m.	IV i
G 7220	36.0 × 17.0	1/2.11	616 sq. m.	IV i
G 7320	35.0 × 16.5	1/2.12	577 sq. m.	IV i
G 7420	36.3 × 15.6	1/2.3	566 sq. m.	IV i
G 7130	37.0 × 17.4	1/2.1	644 sq. m.	IV i
G 7230	36.5 × 15.25	1/2.39	456.62 sq. m.	IV i
G 7330	36.0 × 16.0 (?)	1/2.2	576 sq. m.	IV i
G 7430	35.8 × 15.0	1/2.4	537 sq. m.	IV i

The mean measurements of these twelve cores are:

$$35.93 \times 16.25 \quad 1/2.19 \quad 579.59 \text{ sq. m.}$$

The slope of the ground towards the SE results in an increase in size in the southern row over the *nfrw* size as originally planned. The mean is, therefore, undoubtedly larger than the *nfrw* measurements of the original plan. The normal size of the twelve original cores built by Cheops in the Eastern Cemetery presents a doubling of the area of the normal mastaba of the Western Cemetery. This increase did not, however, satisfy the desire for ostentation manifested in the latter part of the reign of Cheops; and the eight northern cores were incorporated in the four very long, narrow twin-mastabas. The measurements of the cores of these twin-mastabas are as follows:

Northern row: type IV i altered to type IV ii:

G 7110+7120	79.8 × 14.3	1/5.6	1,141 sq. m.	
G 7210+7220	79.5 × 14.5	1/5.5	1,153 sq. m.	
G 7310+7320	79.2 × 13.6	1/5.8	1,077 sq. m.	
G 7410+7420	80.8 × 15.5	1/5.2	1,252 sq. m.	type III ii
Average	79.8 × 14.5	1/5.5	1,156 sq. m.	

These four northern mastabas were finished as twin-mastabas with two burial-shafts. The southern part containing the husband's shaft had an interior chapel and a subsidiary northern niche. The northern part, containing the wife's shaft, was also finished with interior chapel and subsidiary niche. The measurements of the cores cannot, therefore, be compared with the measurements of the normal one-shaft mastaba in either the Western or the Eastern Cemetery. The southern row of original cores had been increased in size by the addition of core-work of type IV iii, and the mastabas were slightly shorter, as follows:

G 7130+7140	65.5 × 17.4	1/3.8	1,140 sq. m.
G 7230+7240	66.5 × 16.3	1/4.0	1,084 sq. m.
G 7330+7340	63.5 × 15.5	1/4.1	984 sq. m.
G 7430+7440	64.8 × 15.5	1/4.2	1,004 sq. m.
Average	65.1 × 16.2	1/4.0	1,053 sq. m.

These twin cores are more irregular in size than those of the northern row, and G 7330+7340 is certainly more carelessly measured and built than the first two or the last.

The above measurements give the sizes and proportions of all the mastaba-cores contained in the five nucleus cemeteries, which I call the Cheops cemeteries because they were either built by that king or on the lines established during his reign. The examination of the sizes of these cores leads to the following definite conclusions:

- (a) All the cores in the Western Field, except 7, were built on a fixed normal size which is approximately 23.5×10.22 , prop. $1/2.17$, area 240.5 sq. m.: the significance of this normal size is emphasized by the fact that it includes 80 out of 87 cores and that these 87 cores present all the types of cores (II a, II b, III, and IV i) observed in these nucleus cemeteries.
- (b) The 7 mastabas of abnormal size all lie outside the blocks arranged in rows and lines, but 6 of them are clearly attached to blocks of cores. The seventh core (G 2000) stands alone. Three of the larger mastabas and one smaller mastaba are known to have been the tombs of royal children.
- (c) The 12 original cores in the Eastern Field were of twice the size of the Western norm: 35.05×15.04 , prop. $1/2.35$, area 530.16 sq. m. This exact size does not appear in any other cores of the Eastern and Western Fields, but a slightly larger core used in mastabas later than Cheops is obviously based on this size.
- (d) The cores of the 8 twin-mastabas of the Eastern Field fall into 2 rows of 4 mastabas each. The northern row includes in each twin core 2 of the original cores joined by massive masonry, and the cores are therefore of larger size and different proportions: 83.0×20.0 , prop. $1/4.2$, area 1,660 sq. m. The southern row of 4 includes, in each, 1 of the original 12 cores and a large addition of massive core-work, and these cores are a little shorter: 68.0×18.4 , prop. $1/3.7$, area 1,251 sq. m.

The chief fact to be remembered is that the cores of the Western Field present a norm smaller than that used in the twelve original cores of the Eastern Field. Both of these normal sizes were established by cores built in the reign of Cheops, and the smaller norm was established for the Western Cemetery some time before the larger norm was set up in the Eastern Field. The change indicates clearly that the whole Eastern Cemetery was planned for persons more important than those buried in the Western Cemetery.

Keeping these two normal sizes in mind, we may now examine the core-mastabas lying outside the nucleus cemetery. The five massive cores constructed in the Eastern Field, east and south of the nucleus cemetery of twin-mastabas, have the following sizes:

G 7510	101×52.0	$1/2.0$	5,278 sq. m.	type IV iii
G 7650	36.5×15.5	$1/2.4$	565 sq. m.	type IV (with addition of filled casing on south)
Completed mastaba	52.0×18.0	$1/2.8$	936 sq. m.	type IV iv
G 7530 + 40	36.5×16.0	$1/2.3$	574 sq. m.	type IV iii
Completed mastaba	49.0×20.0	$1/2.4$	980 sq. m.	type IV iv; shifted southwards
G 7450	50.8×18.0	$1/2.8$	914.4 sq. m.	type IV iii
G 7350	51.75×17.25	$1/3$	892.68 sq. m.	type IV iii
Completed mastaba	55.0×22.5	$1/2.4$	1,238 sq. m.	type IV iii

The core G 7510 is the largest in the Eastern Field and of about the same size as the largest core in the Western Field. The two cores, G 7650 and 7530 + 40, which were of about the same size, were built on the norm of the twelve original cores of the Eastern Field. The other two cores,

G 7450 and G 7350, have been lengthened in construction and so present a greater area and different proportions.

It is of interest at this point to follow out the influence of the larger normal size of the Eastern Cemetery in the sizes and proportions of the filled nummulitic mastabas built for members of the Cheops family in continuation of the nucleus cemetery. These mastabas are six in number, with the following measurements:

G 7750	36.0 × 18.5	1/2.0	666 sq. m.	type VI a
G 7760	52.0 × 18.0	1/2.9	936 sq. m.	type VI a
G 7660	36.5 × 18.5	1/2.0	638 sq. m.	type VI a
G 7550	37.0 × 18.0	1/2.0	666 sq. m.	type VI a
G 7810	38.5 × 19.5	1/2	750.75 sq. m.	type VI a
Zaty				
G 7820	43.0 × 24.0	1/1.8	1,032 sq. m.	type VI a
Iy-nefer...				

Four of these mastabas are approximately of the same size as the original twelve cores of the Eastern Cemetery. Another (G 7760) (52 × 15 m.) is about the same size as the two massive cores G 7450 and G 7350. The Iy-nefer... mastaba, G 7820, is of odd size (43 × 24 m.), but this is probably due to the fact that the mastaba is built on sloping ground and the figures may represent *in situ* measurements similar to those of the four mastabas built on the eastern norm.

In addition to these six mastabas there are three others south of the small pyramid G I-c, which belong to Queen Nefert-kauw, daughter of Sneferuw and a wife of Cheops (?), her son Prince Neferma'at, and her grandson 'Prince' Sneferuw-khaf, G 7050, 7060, and 7070. The queen's mastaba is of peculiar construction. It is a filled mastaba with a retaining wall of white limestone backed by nummulitic blocks, and was constructed course by course and filled in *pari passu* with the construction of the retaining wall. The other two mastabas are of the nummulitic type. It is to be noted that all three of these mastabas approximate in size to the old western norm:

G 7050, white limestone facing (type V)	26.25 × 13.1 m.	1/2.0	343.87 sq. m.
G 7060, nummulitic type VI a	26.25 × 11.9 m.	1/2.2	312.37 sq. m.
G 7070, nummulitic type VI a	26.0 × 12.85 m.	1/2.02	334.1 sq. m.

These three mastabas, which form a family group, were obviously built one after the other on the western norm adopted for the queen's mastaba (G 7050).

The other mastabas in this cemetery are later in date and built one by one according to specifications laid down by the owner. Any relation they may show to the eastern norm is therefore fortuitous.

In the Western Field the later mastabas fall into three divisions: those made by casing old cores of the nucleus cemeteries, those in the streets, and those outlying on independent sites. The mastabas built around old cores show necessarily measurements larger than those of the cores and often considerable increase in length. The mastabas in the streets are of odd sizes, usually adapted to the space available. The outlying mastabas on independent sites are three in number and their sizes are instructive:

G 5110, core type IV iii	.	.	48.0 × 22.4	1/2.1	1,075 sq. m.	
cased mastaba	.	.	51.5 × 24.5	1/2.1	1,261.75 sq. m.	height 6.85 m.

G 2220, core type IV iii	62.0 × 20.4	1/3.03	1,264.8 sq. m.	
casing unfinished, designed				
to have measured	66.8 × 25.2	1/2.65	1,683.36 sq. m.	height 6.6 m.
G 5230, numm. mast. of unique				
form, type IX a	44.0 × 15.6	1/2.8	686 sq. m.	

These mastabas are obviously not built on either the small western or the large eastern norm, and no two of them have the same measurements.

The only remaining cemetery on a unified plan is that south of the First Pyramid, Cem. G I S. This consists of ten cores of massive masonry of type IV, apparently of the subtype i. I have the measurements of only one of these, G I S 1, which is approximately 38×18 m., prop. $1/2.1$, area 664 sq. m. All the others in this row appear to be of about the same size. This size is about the same as the ordinary mastaba of type VI in the Eastern Field, which was based on the larger norm of the Eastern Cemetery.

In conclusion, the cores of the nucleus cemeteries, those presenting a uniform plan, were built in general on two different norms:

- (a) The smaller norm used for the majority of cores in the Western Field.
- (b) The larger norm used for the 12 original Cheops cores of the Eastern Field which, slightly increased in size, was used for the massive cores added to the Eastern Field and for the cores in the Cem. G I S.

The examination of the sizes of the core-mastaba has shown cores of one of these two normal sizes and a small number of cores of abnormal size in the nucleus cemeteries. It remains to compare the proportions of all these cores. In the cores of normal size there are a certain number of variations in the mean proportion of the norm, and these are caused by variation in the normal width of the core. The mean proportion is $1/2.3$, which prevails in Cems. G 1200, 2100, the Cem. en Échelon, and the twelve original Cheops cores of the Eastern Field. The cores in Cem. 4000 present a lesser mean proportion, $1/2.05$. The abnormal mastabas in the western nucleus cemeteries range from $1/1.8$ to $1/2.4$. The massive cores of the Eastern Field range from $1/2$ to $1/3$, and those of Cem. G I S are approximately $1/2.1$. These proportions, in particular those of the Cheops cores, follow closely the proportions of the older c.b. mastabas which were determined by the type of substructure covered by the mastaba. A much shorter superstructure would have been sufficient to contain the one-shaft substructure used by Cheops in his stone mastabas, and the adoption of the longer c.b. form clearly denotes the persistence of the old traditional form.

b. Widths of the Streets and Avenues

The appearance which the Western Cemeteries present of having been laid out on a uniform plan depends, as I have said, largely on the use of mastaba-cores of a uniform and normal type. The necessary corollary is similarity in the widths of the streets and avenues in each cemetery. By avenue I designate the E-W streets which pass between the ends of the mastabas, and by streets the N-S passages between the lines of mastabas. I have pointed out above that the measurements for the mastabas are taken at the rock-surface, not on the *nfrw* base-line, and present, therefore, irregularities dependent on the slope of the ground and the errors of E-W measurements made by the masons. These inaccuracies are, of course, repeated inversely in the measurements of the streets and avenues.

In Cem. G 1200 the streets vary in width from south to north from 6.0 to 5.6 m., narrowing with the northward slope of the ground. In Cem. G 2100 streets 1-3 (counted from the west) measure in

width 6.4, 6.2, and 6.8 m. In Cem. G 4000 streets 1-7 (counted from the west) measure in width 6.8, 6.8, 6.5, 6.0, 6.9, 6.0, 7.0 m. The average width is 6.7 m. The Échelon Cemetery has streets more irregular in width because, as explained elsewhere, it was built in front of Cem. G 4000 and Cem. G 2100, which vary in their N-S orientation, and the Cem. en Échelon itself lies on two different levels produced by the great fault which crosses that cemetery from ESE to WNW. Street 8, which lies between the two older cemeteries and the Cem. en Échelon, has a width of 6 m. in front of Cem. G 4000 and a width of 4.6 m. in front of Cem. G 2100. Street 9 varies from 4.0 to 5.2 m. in the middle and to 4.8 on the north. Street 10 varies from 6.0 to 4.4 m. The original width of the streets in these cemeteries varies as follows:

Cem. 1200, approx. 6 m.

Cem. 2100, approx. 6.4 m.

Cem. 4000, approx. 6.7 m.

Cem. en Échelon, 5.0 m.

It appears that there is no great difference in the street width of the first three cemeteries, and a marked decrease in the street width of the fourth cemetery. It is to be observed that in general the lower the ground-level the more narrow the street, and this suggests that possibly all these cemeteries were built on the same *nfrw* base-line.

The avenues present greater variation:

In Cem. 1200, a width of about	4.8 m.
In Cem. 2100, avenues of 6 mastabas on east, average width of	6.0-6.4 m.
In Cem. 4000, avenue 5	5.6 m.
" 4	6.7 m.
" 3	5.6 m.
" 2	5.8 m.
" 1	5.6 m.
Cem. en Échelon, spaces between ends of mastabas vary considerably	6.1-4.9 m.

In the Eastern Field the mastabas had been for the most part cased and the width of the streets and avenues must be measured usually between the casings:

(1) Width of street G 7100:

(a) Between the casing of 7110+20 and that of 7210+20:

At north end 4.5 m., at south end 4.0 m.; the street narrows with the slope downwards of the ground from north to south.

(b) Between the casing of 7130+40 and the c.b. casing of 7230+40:

At north end 4.75 m., and at south end 3.5 m.; rock slopes to south.

(2) Width of street G 7200:

(a) Between the casing of 7210+20 and 7310+20:

At north end 4.5 m., at south end 4.0 m.; slope to south.

(b) Between the c.b. casing of 7230+40 and the core of 7330+40:

At north end 5.25 m., at south end 4.75 m.; slope to south.

(3) Street G 7300:

(a) Between the casings of 7310+20 and 7410+20:

At north end 2.75 m., at south end 2.25 m.; slope to south; street narrowed by unusual width of 7410+20, which has a facing and a casing.

- (b) Between the core 7330+40 and the casing of 7430+40:
At north end 6.75 m., at south end 5.25 m.; slope to south.
- (c) Between the casing of 7350 and the core of 7450:
At north end 4.5 m., at south end 2.5 m.; ground slopes to south.
- (4) Street 7400: bounded on the west by eastern row of twin-mastabas prolonged by 7450, and on the east by mastabas of the first and second additions to the nucleus cemetery (7510, 7530+40, 7550).
 - (a) Between casing of 7410+20 and that of 7510:
At north end 2.25 m., at south end 1.0 m.; the variation in the width of the street was caused by the divergent orientation of the back of 7510, which was built later than the nucleus cemetery, and by the thicker facing and casing of 7410+20.
 - (b) Between the casing of 7430+40 and the mastabas east of it:
At north end, between casing of 7430 and that of 7510, 4.5 m.
At south end, between casing of 7440 and that of 7530, 5.5 m.
 - (c) Between 7450 (core) and 7540 (casing) and 7550 (type VI a):
At north end, between core of 7450 and casing of 7540, 7.0-7.5 m.
On south, between core of 7450 and dressed surface of 7550 (type VI a), 7.5 m. (lines parallel).
- (5) Street 7500, beginning south of 7510 and running between lines 5 and 6 of the mastabas of the first and second additions:
 - (a) Between the casings of 7530+40 and that of 7650:
At north end of 7530, 3.25 m., and at south end of 7650, 2.75 m.; the mastabas are not exactly aligned and the rock slopes to south.
 - (b) Between 7530+40 and 7550 on west, and 7660 on east (type VI a):
At north end of 7660, between it and casing of 7540, 4.5 m.
At north end of 7550, between it and 7660, 5.75 m.
At south end of 7660, between it and 7550, 5.0 m.
Variations caused by casings and by slope of ground to south (increased slope).
- (6) Street 7600, south of 7510, between mastabas of the first and second additions: 7650 and 7660 on west, and 7750 and 7760 on east:
 - (a) Between the casing of 7650 and the backs of 7750 and 7760:
At north end of 7650, between it and the north end of 7750, 6.0 m.
Between 7650 and south end of 7750, 4.75 m.
Between south end of 7650 and north end of 7760, 4.75 m.
Between north end of 7660 and 7760, 6.0 m.
Between south end of 7760 and 7660, 6.0 m.
- (7) Avenue 2: between the two E-W rows of twin-mastabas:
 - (a) Between the casing of 7120 and that of 7130, 5.5 m.
 - (b) Between the casing of 7220 and the c.b. casing of 7230, 4.75 m.
 - (c) Between the casing of 7320 and the core of 7330, 7.5 m.
 - (d) Between the casing of 7420 and that of 7430, 4.25 m.
- (8) Between the small pyramids:
 - (a) Avenue 1, between G I-a and G I-b, 8.25 m.
 - (b) Avenue 3, between G I-b and G I-c, 4.0 m.

- (9) Width of the avenue between 7510 on north, and the mastabas 7520, 7650, and 7750 on south:
- Between casing of 7510 and core of 7520, 8.0 m.
 - Between casing of 7510 and casing of 7650, 6.25 m.
 - Between casing of 7510 and face of 7750 (type VI a), 5.75 m.

The measurements of the streets of the nucleus cemetery of eight twin-mastabas were obviously about 4.5 m. wide on the *nfrw*-level. The avenue appears to have been laid out to have a width of 5.5 m. between casings on the *nfrw*-level. These widths indicate the widths of street in the nucleus cemetery of twelve cores to have been 6.5 m. wide on the *nfrw*-level, while the avenues were about 7.5–8.0 m. wide. The measurements vary in the cased mastabas with variations in the thickness of the casings. At all stages in the construction of the cemetery the streets narrowed with the slope northwards of the rock and the mastabas widened. In general the rock-surface slopes south-eastwards. The widths of the streets in the old nucleus cemetery of cores are approximately the same as the widths of the streets in Cem. G 4000 of the Western Field, which average 6.7 m., but the avenues are wider than those in any of the three early nucleus cemeteries of the Western Field.

The spaces left between the eastern line of the finished mastabas and the mastabas added in the first addition to the nucleus cemetery show variations introduced by the slight change in the orientation of G 7510. The variations of the streets in the first and second additions show that these mastabas built later were built one or two at a time and were only alined visually with each other and with the lines of the older nucleus cemetery.

4. MARKS OF OWNERSHIP AND ASSIGNMENT OF THE MASTABA-CORES

The special evidence of assignment I take to be the slab-stela affixed to the eastern face of the mastaba-core by being set in a shallow emplacement cut in the retaining wall. A number of these are missing, but are proved to have existed by the presence of the necessary emplacement. Some fragments of stelae were found which may have been displaced from such niches. When the mastaba was completed with a c.b. chapel (type (1)), the western wall of the chapel was so built as to leave the slab-stela in a recess in the brick-work which marked the offering-place (symbolic door to the grave). In four cases (G 1201, 1223, 1225, and 4150) the mastaba-core had been enlarged by additional core-work and a casing of white limestone begun. In these a large false door cut in a single upright slab of white stone had been set in place for the offering-place of the proposed stone chapel (type (3)). Here the slab-stela was found intact in its recess behind the new false door. In G 1201 the slab-stela was protected from injury during the reconstruction by a plain covering-slab of limestone. Each of these slab-stelae differs slightly in design from the others, but all have common features—man or woman seated at a table of bread, ideographic list, short list, 'cupboard list' of offerings, titles, and name of owner. The execution of all these stelae is in very fine low relief, obviously the work of the royal craftsmen. As they were fixed to the original cores only, the conclusion seems assured that they were granted by the king who built the cores and presented on assignment of the core as marks of favour to the owners. The list of stelae or of empty recesses found by Professor Junker and myself is as follows:

	Core	Add	
(1) G 1201 . . .	II a	IV iii (3)	Prince Wepemnofret.
(2) G 1203 . . .	II a (1)	..	Kanofer; reserve head.
(3) G 1205 . . .	II a (1)	..	<i>rh-nswt</i> Khuwfuw-nekht.
(4) G 1207 . . .	II a (1)	..	Nofer(t), <i>rh-nswt</i> .

	Core	Add	
(5) G 1223 . . .	II a	IV iii (3)	Prince Ka-m-aha.
(6) G 1225 . . .	II a	IV iii (3)	Princess Nefert-Yabet.
(7) G 1227 . . .	II a (1)	..	Sethy-hekenet.
(8) G 1235 . . .	II a (1)	..	<i>rh-nswt</i> Yeny.
Three mastabas in Cem. G 2100 had emplacements for slab-stelae:			
(9) G 2100 . . .	II a (1)		empty recess.
(10) G 2120 . . .	II a (1)+(2b)	..	empty recess; slab-stela of Seshat-sekhentiuw fits recess.
(11) G 2135 (Junker)	II a (1)	..	empty recess and fragments of slab-stela (name not preserved).
(12) G 4160 . . .	II b (2)	..	empty recess; reserve head.
(13) G 4150 . . .	II b (3)	IV iii (3)	Prince Yuwnuw.
(14) G 4260 . . .	II b (2)	..	empty recess.
(15) G 4340 . . .	IV i (2)	..	empty recess; reserve head.
(16) G 4250 . . .	II b (1)	..	empty recess.
(17) G 4360 . . .	IV i (1)	..	empty recess; Mery-hetepef, <i>sib qd-mr</i> ; name written on offering-stone.
(18) G 4350 . . .	III i (1)	..	empty recess; reserve head.
(19) G 4460 . . .	IV i (1)	..	empty recess.
(20) G 4450 . . .	IV i (1)	..	weathered stela in place.
(21) G 4560 . . .	IV i (1)	..	weathered fragments of slab-stela; reserve head.
(22) G 4140 . . .	III i (2)	..	Princess Merytyetes; two reserve heads (man and wife).
(23) G 4840 . . .	IV i (2)	..	Princess Weneshet; fragment of slab-stela; mud reserve head.
(24) G 4860 . . .	II a	..	an official; fragments of slab-stela.

None of the rest of the cores in G 4000 had any evidence of a slab-stela, nor had any of those in the Echelon Cemetery. In G 7000 the evidence as to the presence of slab-stelae or recesses was destroyed by the reconstruction of the chapel recesses in the twelve original mastabas.

Thus eight slab-stelae were actually found in Cem. G 1200 (seven by ourselves and one by Mr. Ballard). These eight cores form an unbroken block. In Cem. G 4000 the cores which had slab-stelae also form one unbroken block at the western end of rows 6 (the first five), 5 (the first four), and 4 (the first and third); but farther along in G 4860 and finally in G 4840 (?). Possibly G 4660 also had such a stela (Junker says, 'Nicht nachweisbar').

The other marks of ownership are found on the walls of the chapels and in the false doors added during stage 4 of the construction of the mastabas, and must be treated later. The reserve heads come from the burial-chambers and must be dealt with under the heading of burials.

5. COMPOSITE CORES OF TWO TYPES OF CORE-WORK

The addition of core-work of another type to a mastaba-core is proof of the relative dates of those types of masonry. In every case this additional core-work was of massive masonry (type IV iii). In G 1201, 1223, and 1225 it was added to filled cores with stepped courses of small stone (type II a). In

mastabas G 4000 and 4250 it was added to the solid cores with stepped courses of small stones (type II b). In Cem. G 7000 additions of type IV iii (massive masonry) were added to the southern row of twelve original cores of type IV i (massive masonry). The connecting masonry in the two northern rows was also of type IV.

In every case these additions of massive masonry of type IV iii were cased or had an unfinished casing. The offering-chapel was of the interior type (3). This evidence seems to prove that the massive core-work of type IV iii was later than types II a, II b, and types IV i and IV ii. It is to be noted that cores of type IV i in Cem. G 7000 were altered in the process of casing to type IV ii.

6. THE RELATIVE POSITIONS OF THE BLOCKS OF CORES AND OF THE INDIVIDUAL CORES

a. The Four Nucleus Cemeteries of the Western Field

As stated above, there are in the Western Field four cemeteries or blocks of cores and one isolated mastaba of great size—Cem. G 4000, Cem. G 2100, Cem. G 1200, Cem. en Échelon, and the mastaba G 2000.

Cem. G 4000 occupies the choicest position in the whole Western Field, on the highest ground and on good sound rock. It consists of forty-two mastaba-cores divided by streets and avenues of about the same uniform width. To the west stands one larger mastaba-core, that of Prince Hemyuwen and his wife, G 4000, type II b. In front of this lie three rows (6, 5, 4) of eight mastabas all of approximately the normal size, but not all of the same type of masonry. G 4160, 4150, 4260, and 4250 are of type II b, like G 4000, and it is obvious that this block of five mastabas of type II b was built first and began the unified plan the lines of which were afterwards prolonged by the other mastabas of these three rows, of which G 4350 and G 4140 were of type III i and the rest of type IV i. The two first lines, 4100 and 4200, were not continued southwards owing to the presence of the Schiaparelli quarry, but lines 3-7 were carried southwards by three more rows of mastabas, while the line 8 received only two such cores (unless the third has been destroyed). Thus the whole of the cemetery consisted of three rows of eight mastabas, two rows (3 and 2) of six mastabas each, and one row of five (or six) mastabas. All these added cores were of type IV i except the northern mastaba of line 8, which was again of type II a.

All these facts point to the construction of the cores from west to east and from north to south. When the evidence of the slab-stelae is added I conclude that rows 6 and 5 were built almost *pari passu* as far as line 6 (inclusive), first 4160, then 4150, and so on, with perhaps some aberrations in the regularity of the proceedings. Then row 4 was built from west to east as far as 4740, and was followed by G 4750 and 4760. These cores formed a solid block of 22. Rows 3, 2, and 1 and line 8 were added later, probably immediately after row 4 and line 7. Some of these cores are not so well constructed as the early cores, particularly in line 8. In line 8 the first core on the south (row 1) was never constructed and the last on the north (G 4860), obviously the last core in the cemetery, was of type II a, similar to the core of the Cem. en Échelon. In any case the assignment of the cores proceeded after the first four (or five) of type II b, along row 6 from west to east to 4860, and along row 5 from 4350. In row 4 only the first, third, and perhaps the last had slab-stelae.

Cem. G 2100, consisting of eleven cores, was built on lower ground which slopes slightly north and east. This group of cores lies north of lines 5-8 of Cem. G 4000, with its nucleus group about 35 m. away and not alined with the cores of Cem. G 4000. The cemetery itself is not entirely on a unified plan. It consists of a western group of five cores all constructed with a portcullis groove in the burial-

shaft, and these are the only shafts at Giza with portcullis groove. This western group lies in two N-S lines with two mastabas in the western line and three in the eastern. All the five had cores of abnormal size, and no two had the same measurements. It is obvious that the cores were constructed in one short period, but after the manner of a family cemetery. I incline to the opinion that the group was based on G 2100 and built in the following order: 2100, 2130, 2120, 2110, and 2210. Added to the western group on the east are six cores of normal size, in two N-S lines and three E-W rows. The two mastabas of the northern row have their south ends alined with the southern end of G 2130 of the western group, and the two mastabas of the middle row have their southern ends alined with the southern end of G 2120. The southern row of two mastabas (excavated by Junker) lie out to the south of the other two rows and fill the space between them and G 4000, rows 7 and 8. It is clear that these six eastern cores were constructed after the western family cemetery with portcullis grooves and first gave this cemetery the appearance of having been constructed on a unified plan. All the cores except that of G 2130 were of type II a, but 2130 had a core of type II b considerably altered in finishing the mastaba.

The mastabas were finished at different times. Two cores, 2100 and 2135 (Junker), were used as mastabas with slab-stela and c.b. chapel of type (1). G 2100 I take to be the first of the western group, while G 2135 is in the western row of the eastern group. The fact indicates that the eastern group, although later than the western, was still constructed in the reign of Cheops. The core 2130 was enlarged and finished with a smooth, sloping casing of fine white limestone with interior chapel of type (3 a) and with a burial-chamber of type 1 lined with white limestone. The owner was a prince Khent-ka (?). G 2120 was being finished with a white casing with exterior chapel when the work was interrupted, and the final chapel was of c.b. around a monolithic false door. The broken slab-stela of Prince Seshat-sekhentiaw fits the emplacement in the core wall of this mastaba. The burial-chamber was also of type 1 with white lining. The core 2210 had an addition of type IV iii with recess for interior chapel (never finished) and its burial-chamber was again of type 1 with unfinished lining. The fifth core of the western group was cased with fine white masonry with an exterior chapel of type (2) decorated with very fine reliefs, in the name of an official named Nofer. The burial-chamber of type 4 a (2) was unlined, but blocked with masonry and a portcullis stone. It may be noted further that around the south end of G 2100 was built the mastaba (type VII a) of 'Prince' Mer-ib and against the south end of his mastaba that of his daughter 'Princess' Nen-sezer-ka. It seems probable that the person who was buried in G 2100 A and possessed a slab-stela was the father or mother of Mer-ib and a son or daughter of Cheops. The western group thus included the tombs of two children of Cheops. The owner of the finished mastaba G 2110 was the *imy-rs sš prw*, *imy-rs pr hđ*, *imy-rs šty dfr*, *imy-rs sš hrt-ē nšwt*, *hry ššr nšwt*, *imy-rs hkr nšwt*, *imy-rs pr ḥr*, *wr md šmccw*, *sšb*, *nht hrw*, *hkr ht*, *rh nšwt Nfr*. Nofer held a number of important offices, but probably his most influential office was that of chief of the king's letter scribes or royal secretary. The tomb was finished later than G 2130 and probably after the accession of Chephren. I take it that the work on the casing of G 2120 and G 2210 was interrupted by the death of Cheops and that at the time G 2130, G 2100, and G 2135 were finished and perhaps used.

The finishing of the remaining five mastabas of the eastern group proceeded roughly from west to east. G 2140 was altered by the introduction of a one-niched interior chapel of white limestone (type (3 a)) with decoration just begun. The shaft had a chamber of a low degenerate form of type 3 b. Then came G 2150 cased with z-masonry with interior white chapel of type (4) fully decorated, with estates bearing the name of Mycerinus and therefore of a time later than Mycerinus. The mastaba had two shafts, of which the man's shaft was of type 4 b (1) and the wife's of type 6 a (3). The owner was the *imy-rs wpwt*, *mdw rhyt*, *wr is m prwy*, *šmr wcty*, *hrp ḥ Ks-nfr*. His wife inside is named Shepseset-kauw.

Outside, Kanofer is represented with another woman, *rht nswt* Meresankh, perhaps his mother (possibly the same as the wife of Nofer, Meresankh). His son is Kaseza, identified with the owner of G 5340 (Lepsius G 37 and Junker). The next is the Junker mastaba G 2155, of 'Prince' Kani-nesuwt. The mastaba was enlarged around the old core and cased with white masonry with an interior chapel of type (4) and shaft of type 4 a (4). The other two cores, G 2160 and G 2170, were used unaltered probably with exterior c.b. chapels which have been destroyed. G 2160 had one shaft of type 4 a (2) (unfinished), and G 2170 had also one shaft of type 6 a (3).

Cem. G 1200 is over 175 m. west of Cem. G. 2100. The rock underneath is good, and while the highest part of the site is slightly lower than the rock at the mastaba G 4000, it is about 4 m. higher than the rock under G 2100-2130. It would appear that the situation of Cem. G 1200 was selected after that of Cem. G 4000, but it may have been selected earlier because of building operations in connexion with the First Pyramid itself. In any case the type of the cores and the types of additional core-work indicate that Cem. G 1200 was begun about the same time as G 4000, and the general use of slab-stelae in Cem. G 1200 proves it contemporary with G 4000. The cemetery is not alined with either of the other two early cemeteries nor with G 2000.

Cem. G 1200 consists of ten mastabas built in three rows on the same lines. G 1201, which is larger than the others, has its north end alined with the northern ends of the southern row, but extends south of their southern ends. Thus G 1201, the tomb of Prince Wepemnofret, heads a row of five mastabas. Three of the four smaller mastabas have slab-stelae (also) and are the tombs of two men and one woman called *rht-nswt* (or *rht-nswt*). The middle line is headed by a normal mastaba (with annex) with slab-stela bearing the name of Prince Ka-m-aha. It is set back west of G 1201 in line with the first small mastaba (G 1203), and west of it, in alinement, stand the mastabas of the Princess Nefert-yabet and the lady Sethy-hekenet. The northern row is headed by a nameless mastaba (no slab-stela), which afterwards had the mastaba of Ankh-haf built against its face in the place of the offering-chapel. Behind this lay only one mastaba, that of the *rht-nswt* Yem. The most important of these mastabas are G 1201 and G 1223, heading the southern and the middle rows, and of these G 1201 is obviously that of the more important person. The third of the northern row is clearly the latest of the three. The cemetery appears to have been begun by G 1223, followed by G 1225, G 1203, and perhaps G 1205. Thereafter the other five mastabas on the north and west were built continuing the rows towards the west and adding a new row. All these mastabas are of type II a, and eight of the ten have slab-stelae.

About 50 m. north of the northern edge of Cem. G 4000 stands the great isolated mastaba, G 2000, opposite the Hemyuwen mastaba and line 1 of that cemetery. It is about 50 m. west of Cem. 2100 on an irregular rock-surface sloping northwards. It appears to cover a gully in the rock-surface.

From back of G 2100 to front of G 2000	50.0 m.
From back of G 2000 to front of G 1201	76.0 m.
From back of G 2000 to front of G 1223	99.6 m.
From back of G 2100 to front of G 1201	178.0 m.
From back of G 2100 to front of G 1223	201.6 m.
From south end of G 2000 to north end of G 4160	47.2 m.
From south end of G 2000 to Hemyuwen	64.0 m.
From south end of G 2120 to north line of Cem. G 4000	35.2 m.
From south end of G 2135 to north line of Cem. G 4000	6.4 m.

These figures emphasize the isolation of G 2000. The type of that great mastaba, type III ii, is in origin certainly later than the earlier mastabas in Cem. G 1200, Cem. G 2100, and Cem. G 4000, which

are all either of type II a or II b. The uneven and bad character of the rock-surface under G 2000 proves that in selecting the site the builders had no choice because the better sites of Cem. G 4000 and Cem. G 1200 were already occupied. Remembering that the early mastabas in Cem. G 2100 are as early as the original five mastabas of Cem. G 4000, the conclusion seems certain that G 2000 was built after the founding of the three older nucleus cemeteries. This conclusion is strengthened by the fact that none of the nucleus cemeteries is in alinement with the great mastaba G 2000.

The fourth cemetery in the Western Field is the Cem. en Échelon which lies east of Cems. G 4000 and G 2100. The situation marks it as later than the other two. Some of the mastabas appear never to have been used and some were cased as late as Dyn. V. The terrain is broken by a fault in the rock, which crosses from SE to NW, with a lower level north of the fault and a slope towards the north (or NE). The mastabas are of the size which I call normal in the Western Field, but mostly with two burial-shafts instead of one. The inequalities in size and proportions are due partly to the unevenness of the terrain.

The cemetery consists of three N-S lines of about nine cores each, but two were either never built or have been destroyed to make way for G 5110. The cemetery is called an *échelon* cemetery because the mastabas of the second row are so sited as to leave the chapels of the first row opposite the open spaces between the cores. The third or eastern line is sited similarly with reference to the second (middle) line.

The cemetery is obviously built on a unified plan with mastaba-cores of type II a of the normal size. But the northern half of the cemetery (cores 7-9 of the three lines) is orientated parallel to the lines of Cem. 2100, while the southern part (cores 1-6 of the three lines) is orientated parallel to the lines of Cem. G 4000. Thus each of the three lines shows a jog where the two orientations meet. If the line west of the Échelon Cemetery is examined it will be seen that this also has a jog in the same place where the Cem. G 4000 meets the Cem. G 2100 (between G 4860 and G 2155) (Junker's VIII N and VIII NN).

In the western (first) line of the Échelon Cemetery the only core which follows the *échelon* principle and leaves the chapels to the west with a free outlook is G 4920. The mastaba G 4910 is 3 or 4 m. shorter than the normal size and was obviously crowded in south of G 4920, and shortened because of the lack of space. The last mastaba in line 8 of Cem. G 4000, G 4860, was also of type II a, and it looks as if G 4920 was the next core built after G 4860. In that case the spacing and sizes of Cem. 4000 would have thrown the rest of the line *en échelon* with the eighth line of Cem. G 4000, but the spacing between the ends of the cores was less, so that the chapels to the west were covered. When, progressing northwards, the workmen reached the jog in the line between Cem. G 4000 and Cem. G 2100, the cores to the north had to be set forward (to the east) to leave room for the chapels of the eastern line of Cem. G 2100, and the northern part of the line was brought parallel to the lines of that cemetery. I consider it probable that the second line was also built from the south, beginning with G 5010, which left the chapel of G 4910 open to the east and thus brought the *échelon* principle into operation in this cemetery along the whole line 10 (cf. G 7530 + 40). In the third (eastern) line, at the south end, one or two cores may have been destroyed to make place for G 5110 (Duwanera).¹ It seems probable, however, that this line was also begun from the south like lines 1 and 2. Each of these two lines also repeated the jog between the sixth and seventh rows which originated from the junction of line 8 of Cem. G 4000 and

¹ A wide construction causeway, used apparently to bring down stones from the quarry west of Cem. G 4000 to the mastaba G 5230, winds in and out through the Échelon Cemetery and actually crosses over the end of one of the cores

of the cemetery. The causeway was later than G 5110, which I date to the reign of Mycerinus, and it is certain that the Échelon Cemetery was earlier than G 5230 (Prince (?) Khnum-baf), whom I believe to have been a son of Duwanera.

the eastern line of Cem. G 2100. This jog in the lines of the Échelon Cemetery gives it the misleading appearance of having been constructed as two cemeteries, one in continuation of G 4000 and the other of G 2100, but this appearance is, as explained above, fallacious. The Échelon Cemetery is obviously one cemetery laid out after the other three, and merely adjusted to the divergent lines of the two adjacent cemeteries.

b. The Nucleus Cemetery of the Eastern Field

The chronological order of the Cheops mastabas depends largely on the order of the cores in the Eastern Field, Cem. G 7000. It is to be observed that the ground-plan of this cemetery was not designed

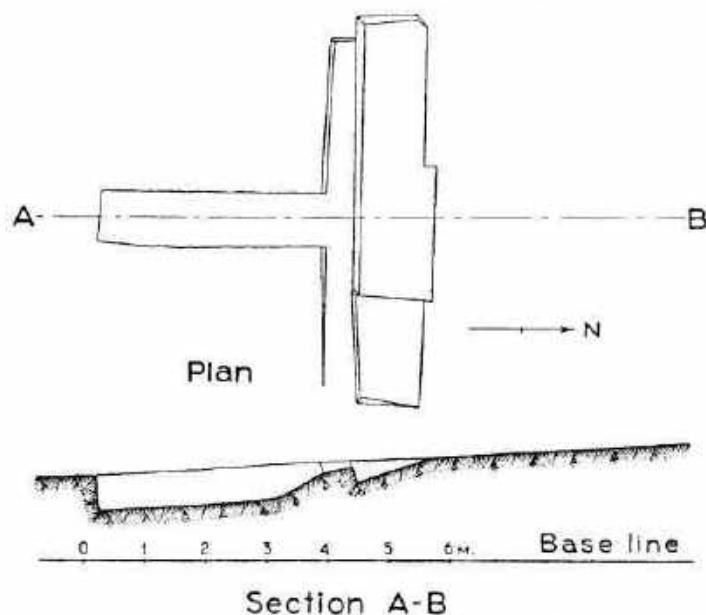


Fig. 18. Unfinished Pyramid

from the beginning of the construction of the pyramid of Cheops. There are in fact two changes in the plan of the cemetery easily observable. In the final plan the cemetery consisted of three small pyramids for the queens, and eight twin-mastabas in two rows (northern and southern) of four mastabas each. Examination showed that the northern row incorporated in the core of each mastaba two older independent cores with later connecting masonry, while the core of each mastaba of the southern row incorporated one similar older core increased by an additional block of massive masonry on the south. Thus the Eastern Cemetery began with twelve cores in three rows of four cores each (three E-W rows and four N-S lines). The three pyramids were in a N-S line with two northern pyramids alined, while the third (southern) pyramid was set back to the west about 3.55 m. The northern pyramid was set close up in the angle between the entrance corridor of the pyramid temple and the main body of that temple, and was probably so placed after the plan of the temple had been laid out on the ground and perhaps partially built. But east of this northern pyramid, 42 m. from the sloping burial-passage of the finished pyramid, was an unfinished cutting in the rock of similar size which proved that a small pyramid of the same size had been begun here (Fig. 18). The sloping passage in the rock, 0.85 m. wide, had been cut to a length of 3.75 m. and a depth of 0.54 m. At the northern end of the sloping passage an emplacement 6.35 m. wide had been prepared for the sloping courses of masonry which were to carry the sloping passage up and out to the projected face of the pyramid. In this emplacement the plaster showed that two courses of stone had already been set and afterwards removed on the abandonment of the site. This unfinished pyramid (see Fig. 18) is 12.7 m. south of the secret shaft of Hetep-heres I, the mother of

Cheops, and it is clear that the site was abandoned as a result of the excavation and use of her secret tomb. Now if that unfinished pyramid had been completed it would have covered the site of the core G 7110, and with its chapel would have prevented the construction of G 7210.

Measurements around the unfinished pyramid:

Pyramid G I-a	. . . . .	49.5 m. sq.
G I-b	. . . . .	49.0 m. sq.
G I-c	. . . . .	46.85 m. sq.
From axis of cutting to east face of G I-a	. . . . .	7.5 m.
From axis of cutting to middle of G I-a	. . . . .	32.25 m.
From axis of cutting to axis of pyramid passage G I-a	. . . . .	32.25 m.
Width of Queen's Street from casing G I-a to 7110	. . . . .	17.5 m.
From axis of cutting to casing G 7110	. . . . .	10.0 m.
to east casing G 7110	. . . . .	29.5 m.
to west face casing G 7210	. . . . .	33.5 m.
to east face of G 7210	. . . . .	53.5 m.
to west face of G 7310	. . . . .	58.0 m.
to east face of G 7310	. . . . .	77.0 m.

Assuming that the projected unfinished pyramid was of the same size as G I-a, then its eastern face would have fallen a little east of the middle of core G 7110, at a distance of 24.75 m. from the axis of the cutting. Assuming a street for the chapel of the same width as Queen's Street, the eastern side of this street would have fallen just inside the eastern face of G 7210, at 52.25 m. from the cutting. It is obvious that neither core G 7110 nor G 7210 could have been in place when the unfinished pyramid was laid out. Further, either the street for the pyramid chapel was planned for a greater width than that of Queen's Street (27.5), namely, the great width of 33.5 m. (which is highly improbable), or core G 7310 was also yet unbuilt. It seems therefore probable that none of the twelve original cores had been built at the time when this unfinished pyramid was abandoned. That leads to the conclusion that the twelve original cores were laid out on the evident unified plan after the siting of pyramid G I-a, and perhaps after its complete or partial construction:

From the back of G I-a to the front of G I 61.0 m.

The clue to the date of the original twelve cores lies in the date of construction of G I-a (and G I-b). The siting of this pyramid was certainly made after the pyramid of Cheops in its final size was laid out together with the plan of the pyramid temple. The back of G I-a is 61 m. from the face of the pyramid G I. At the Third Pyramid it is obvious that the three small pyramids III-a, b, and c were being built at the time of the death of Mycerinus, that is, at the time Shepseskaf began the completion of his father's work. It hardly seems possible that Cheops could have left the pyramids of his queens until after the completion of his own tomb. He had certainly constructed the cores of the Western Cemetery, beginning early in his reign. On a block of stone in the south wall of the entrance corridor to the Cheops pyramid temple was a date which Rowe read as the year 13 (?). This would indicate that the construction of the temple had been begun at least by that year. It is nearly certain that the Cheops pyramid and funerary temples were finished in the twenty-three years of his reign. But it is impossible to be certain of the time required for the various stages, the construction of the stepped core, of the fine white casing, of the upper burial-chamber, and of the temple. Probably the length of time required to build a pyramid of the size of G I or even of G I-a has been over-estimated by archaeologists. The rate of

construction depends so largely on the number of men employed, the organization, and the methods of construction—factors of which we are profoundly ignorant. Certainly the core-work of the small pyramids (G I-a, &c.) and that of a mastaba-core could have been finished in a matter of one or two years for the pyramids, and about six months or a year for the mastabas. The construction of the Great Pyramid and temple, of the two small pyramids, and of the twelve original cores may have been proceeding simultaneously in the middle of the reign. From these vague indications I would set the construction of the two small pyramids G I-a and b at about the year 15. G I-a was begun first, followed closely by the beginning of G I-b. The twelve cores would have been begun before the two small pyramids were finished, or immediately after their completion. Thus I would set the construction of the twelve original cores at years 15-17.

The normal position chosen for the pyramids of queens is south of the pyramid of the king himself. At the Medum pyramid the queen's pyramid was on the south and another tomb was built on the north. The South Stone Pyramid at Dahshur had a single small pyramid on the south, as did that of Chephren, while the pyramid of Mycerinus had three small pyramids in an E-W line on the south. It seems, therefore, that the position of the three queens' pyramids of Cheops on the east of his pyramid requires some explanation. Professor Junker found a sloping passage south of the Cheops pyramid between Nos. 6 and 7 of the cores of that cemetery and nearer the pyramid. I would suggest that after beginning a small pyramid on this side the terrain was judged unsuitable owing to the proximity of the great quarry, and that for this reason the three queens' pyramids were placed east of the southern half of the king's pyramid. This explanation would confirm the date assigned to the building of these pyramids in that it was certainly after the exploitation of the northern part of the great quarry.

These twelve original cores, as far as can be seen, were never assigned, but were probably intended for the same persons who were afterwards buried in the twin-mastabas constructed later. The original cores measure on an average about 35.62×15.04 m., area 534.58 sq. m., about double the size of the normal cores of the Western Field, and were obviously intended for great favourites. But this size of core was not sufficient for the desires of the king or those of his favourites, and the two northern cores of the four lines were joined up to form four very long twin-mastabas. The two old cores which were of type IV i were joined up with massive masonry of the same kind, and the whole was cased in fine white masonry with interior chapels (one for man and one for wife) of type (3). There had been no recess in the old cores for these chapels, and the faces of the old cores, where the chapel was to come, were broken out and reconstructed with interior recesses to take the chapels. That is, the interior chapel was first used at Giza in these twin-mastabas or shortly before their construction—at any rate after the construction of the original twelve cores. These new cores with recess were constructed, therefore, probably about the years 17-20 of Cheops. These long twin cores, measuring about 79.8×14.5 m., area 1,156.0 sq. m., may have been put together immediately or a few years after the construction of the twelve original cores and were undoubtedly immediately cased. This would give us approximately the period Cheops 17-20 for the twin cores and the casing. The easternmost twin-mastaba core, G 7410-7420, was faced with small stones set in steps, core-type III before casing.

The construction of the four northern twin cores left one row of four of the original cores of type IV i on the south. These were enlarged by the addition of a block of massive masonry of type IV iii (with recess for chapel) on the south to form another four cores of lesser length than the four northern twin cores, but also intended for twin cores. This reconstruction was obviously later than that of the four northern twin cores, but probably followed immediately, about the years 17-20. The casing of these four was proceeding when Cheops died. The westernmost was finished; the casing of the next

begun. The casing of the second from the west was later built of c.b., but the third from the west was never cased. The fourth from the west (the eastern core) was cased later with inferior white masonry and has the chapel at the north. I would assign the state of the southern row of twin-mastabas, with G 7130+7140 finished and the others still in the core state, to the time when Cheops died. Only the westernmost core was finished as a twin-mastaba, and the other three were finished as two-shaft mastabas.

Twelve original cores completed about years 15-17.

Four northern twin cores completed about years 17-20.

Four twin-mastabas finished about year 20.

Four southern twin cores completed about year 20.

G 7130+7140 completed about year 23. (Quarry mark on casing reads year 23 (*hst sp 12*).)

This would set the introduction of the interior stone chapel about the years 17-20.

All the remaining mastabas of the Eastern Field were plainly constructed around the nucleus cemetery of eight twin cores. By position the first of these is obviously the great mastaba G 7510 (104×52 m.) of core-type IV iii (with recess for one chapel). Subsequent to this follow the four mastabas, G 7650, 7530+40, 7540, and 7350. In being used the core of 7650 received an addition on the south which was in reality of filled masonry (a white casing wall backed with white stones and filled with rubbish). In this addition the chapel was constructed.¹ The next core was directly behind G 7650 to the west and was of the same size and construction. Both measured about 36×16 m. (the same as the twelve original cores). Neither of these cores had a recess for an interior chapel. But both as completed had an interior chapel in the addition. For G 7530+40 as finished had been shifted southwards to extend beyond G 7650. The northern end of the core was partially demolished and the stones or similar stones used to back the white casing of the southern extension. The core of the southern extension was recessed to take the interior chapel. The original cores of these two mastabas were of the same size (norm of twelve original cores of this cemetery), and were of type IV i (without chapel recess). They were obviously built after G 7510, but not finished for some time. The casing of G 7530+40 is dated by quarry inscriptions to the thirteenth year of a king who could only have been Chephren, the son-in-law of the Queen Hetep-heres II, for whom the casing was built. Thus the original cores must have been some years previous to that date (probably years 1-5 of Chephren).

The next two cores, G 7450 and G 7350, both have a recess in the core for an interior chapel.² They continue the lines of the nucleus cemetery of twin-mastabas southwards by one core each. G 7650 has three burial-shafts; G 7530+40, none in mastaba; G 7450, two; and G 7350, three shafts (of which one was never used). These two cores are about the same size as the cased cores G 7650 and G 7530+40, and were probably made after the casing of those two; that is, after Chephren year 13. One other isolated mastaba of about this size and type IV iii was built south of line 6 (G 7690), but never cased.

A sixth mastaba, not counting G 7690, was G 7050 (presumed to be the tomb of Queen Nefert-kauw, 'eldest daughter of Sneferuw'). This mastaba is of type V. The white casing is backed with one row of nummulitic blocks, and the construction is rather like the additions to G 7650 and G 7530+40. This mastaba would thus appear to have been built about year 13 of Chephren. (The lady would have been about 65-70 years old at the time.)

The rest of the princely mastabas in Cem. G 7000 are around the fringes of the cemetery thus

¹ The back of a stone in the north wall of the chapel bears a quarry mark with year 23 (*hst sp 12*). A casing block on the north end of the mastaba is marked in red, year 25 (*hst sp 13*).

² The back of a casing stone on the north side of G 7350 was marked in red, year 19 (?) (*hst sp 10?*).

described above. Lines 5 and 6 were continued by one mastaba each (G 7660 and G 7550), while a seventh line of two mastabas (G 7750 and G 7760) was added on the east so sited as to leave the chapels of G 7650 and G 7660 with a free eastern outlook. West of G 7050 two more mastabas were built, G 7060 and G 7070. North of G 7510 two more were added, G 7820 and 7810. These eight mastabas were filled mastabas of type VI a (with sloping grey retaining wall) and two were the tombs of princes, four of 'princes', one of the husband of a princess, and one of the son of a prince. The chapels are of type (3), of nummulitic limestone.

c. Cemetery G I S

The Eastern Field is continued westwards along the southern side of the Cheops pyramid by an E-W row of the massive cores of type IV i (?), but of poor stone and poor construction. These are of the two-shaft type in general. They were excavated by Professor Junker, and bear his numbers from west: 1, 1 a, 2, 3, 5, 6, 7, 8, 9, and 10 (not excavated). The easternmost, No. 10, is sited so that the c.b. chapel falls in the space south of G I-c, between the pyramid and the mastaba, G 7070, of Sneferu-khaf. The c.b. chapel of 10 is large and only the eastern part has been excavated. The front part of it lies between the pyramid G I-c and the retaining wall which holds up the filled platform around the SE corner of the pyramid. I conclude that the cemetery G I S is a continuation of Cem. G 7000 and was begun at the eastern end. Six cores were constructed on a line probably at one operation. G I-c already stood in its place. As this has been assigned to the year 17-18 of Cheops, the new row of mastaba-cores was later than that date. The mastabas G 7070, G 7060, and even G 7050 appear to have been built before the southern row of these six cores of type IV.

Between Nos. 5 and 3 there is a wider space. Wilkinson shows here a rectangular building in the middle line of the pyramid. Professor Junker has found a square mastaba with a burial-shaft here. A short mastaba was built in the southern end of this space. Beyond it No. 3, aligned with the cores 10-5, has a double casing (z and x). Then follows No. 2. This is a core type IV i with y-casing and two shafts, one of which is unfinished. Between Nos. 2 and 1 stands the unfinished or destroyed core 1 a. No. 1 is also of core-type IV i (38 × 18 m.). It seems that the mastabas Nos. 1-3 are not of the same series of cores as Nos. 5-10. Yet the groups appear to lie on the same alinement.

Professor Junker ascribed these cores to Mycerinus on the basis of a deposit of granite powder over the area previous to the construction of the cores. This granite powder he ascribes to the dressing of granite for the Second Pyramid which he assumes to have taken place on the ledge south of the First Pyramid. I regard this explanation of the origin of the granite powder as possible, but by no means assured.

The six cores could have been constructed as far as the type goes in the reign of Cheops, and by the relation to G I-c, at the end of that reign. They might also have been constructed in the early part of the reign of Chephren (as G 7650). We have up to the present no evidence as to the type of core used by Mycerinus. Shepseskaf used massive blocks in his own great mastaba at Dahshur. This type of masonry must have been known in the reign of Mycerinus also. But if these cores were built by Mycerinus, why did he select a place so far from his own tomb?

7. THE CHRONOLOGICAL ORDER OF THE NUCLEUS CEMETERIES

As a basis for the chronological order of the finished mastabas the blocks of cores constituting the nucleus cemeteries must be arranged in chronological order, and the number of the growth of each

block worked out. For this purpose the facts given above must be summed up in regard to the following points:

- a. The initial mastabas of each nucleus cemetery and the origin of the unified plan.
- b. The evidence of the types of cores.
- c. The relative positions of the three nucleus cemeteries in the Western Field.
- d. The growth of the nucleus cemeteries of the Western Field.
- e. The remaining three nucleus cemeteries.

a. The Initial Mastabas of each Nucleus Cemetery and the Origin of the Unified Plan

The twelve original cores in Cem. G 7000 were obviously laid out *ab origine* on one unified plan, and were built after the middle of the reign of Cheops, probably about year 17. That block was laid out in regular rows with one core directly behind the other. The siting of cores *en échelon* appears first in the Eastern Field in the finishing of the two massive cores, G 7650 and G 7530+40, built in the reign of Chephren, and was continued by the four nummulitic mastabas of type VI a added around these two cores. This principle appears fully developed *ab initio* in the Cem. en Echelon of the Western Field, which was laid out after Cem. G 4000 and Cem. G 2100 had been fully constructed, certainly after the accession of Chephren. On the other hand, the three western cemeteries, G 1200, G 2100, and G 4000, require examination as to the point in their growth at which a unified plan appears fully developed. Each of the three western cemeteries begins with an initial group of five cores as follows:

- (a) Cem. G 4000: with the 4 initial cores at the western end of the 2 northern rows; the large core, G 4000, was laid out to the west of these 4 and lies outside the unified plan. I consider that it was built before the other 4, but practically at the same time; the remaining 37 cores were laid out in prolongation of the rows and lines of the first 4 mentioned above, but were of different core-types.
- (b) Cem. G 2100: the first 5 cores, united as a group by the porteullis groove in the shaft-casing, were laid out in N-S lines but not alined in the E-W direction; the unified plan did not begin until the erection of the 6 additional cores which were on a unified plan alined in an E-W direction with the southern end of the 2 larger mastabas of the second row from the west.
- (c) Cem. G 1200: the 9 cores of normal size all lie in regular lines and rows, and began with the 2 eastern cores in the middle row and the 2 in the southern row; the large core, G 1201, has its northern end alined with the northern end of the southern row; this large core may have been the first in the cemetery, or it may have been constructed after the first four of the unified plan (cf. Cem. G 4000).

In Cem. G 4000 the evidence is quite clear. The four mastabas at the western end of the fifth and sixth rows are all of one type and were laid out in a regular rectangle. It is uncertain whether they were subsidiary to the large mastaba G 4000 or built before that core was sited.¹ All the rest of the cemetery is based on the line of this original rectangle, and the succeeding cores are differentiated from these four in core-type. The fact is indisputable that these four cores together with that of mastaba G 4000 form the initial group of cores in this cemetery.

In Cem. G 2100 the western group of five mastabas was apparently constructed first as a family

¹ The casing blocks of G 4000 bore quarry marks of the year 15 (*hst sp 8*) and 19 (*hst sp 10*) of a king who must have been Cheops.

group based on G 2100. All five present an unusual common feature, a portcullis groove built in the stone casing of the shaft.¹ These five were in two N-S lines, but not in clearly marked E-W rows. Two of these cores were abnormally large, two abnormally small, and one a little larger than normal size. The unified plan was created by the construction of six later eastern cores. These normal cores were linked with the western group by the alinement of rows 2 and 3 with the two abnormally large mastabas of the western group of five. Thus the cores of the eastern group are certainly later than the two large mastabas, 2120 and 2130, of the western group, and in all probability later than all five of the western cores which I mark as the five initial cores of Cem. G 2100.

Cem. G 1200 presents, like Cem. G 4000, a large mastaba outside the rows and lines of normal mastabas which form the main part of the cemetery. Unlike G 4000, however, this large mastaba (G 1201) has its northern end alined with the northern end of the southern row of normal mastabas. The block of the normal mastabas was built continuously, without the introduction of any other type. Nevertheless, as it was growing westwards and northwards, I assume that the rectangle of four cores which form the eastern ends of the southern and middle row were built first and established the unified plan as happened in Cem. G 4000. Here, however, I feel more confident that the large mastaba (G 1201) was constructed after the initial rectangle, but it was already in existence when the massive core-work was introduced, and it, as well as two of the cores of the initial rectangle, was enlarged with massive core-work.

Thus the examination of the nucleus cemeteries marks out fifteen initial cores, five in Cem. G 4000, five in Cem. G 2100, and five in Cem. G 1200. The position of these initial cores in their respective cemeteries indicates at once that they are the earliest mastabas in the Western Field, and were therefore built by Cheops or in his reign. The one piece of direct evidence recovered, the red inscription on a lining block of the burial-chamber of G 1203, proved that these cores were constructed by the working gangs of Cheops himself.² It is also to be noted that at least ten of these fifteen initial cores had received slab-stelae which I take to be evidence of their construction and assignment by Cheops, and at least six of the fifteen persons to whom they were assigned were princes and princesses of the blood royal.

b. The Evidence of the Types of Cores

The examination of the types of cores yielded the following order of the introduction of these types:

- (a) Types II a and II b, contemporaneous.
- (b) Type III, a combination of type II and type IV.
- (c) Type IV i.

On the basis of the core-types, the first five cores in Cem. G 4000, the first five in Cem. G 2100, and at least the first five in Cem. G 1200 were approximately contemporaneous, all being of type II a or II b. All other cores in these three cemeteries, whatever their type, were later than the cores just mentioned, although immediately succeeding them in time. In Cem. G 1200 and Cem. G 2100 the old type II a was used until the completion of the cemetery. In Cem. G 4000, however, the core-type II b was succeeded by core-type III (two mastabas in direct proximity to the older type) and thereafter by core-type IV i. The introduction of the massive masonry in core-types III and IV in this cemetery is to be noted as an important point. It was introduced immediately after the five initial cores, but two of the massive cores were faced with small-stepped courses to give them the appearance of type II.

¹ A monolithic block in the west wall of G 2120 bore a quarry mark with the year 23 (*ht sp 12*).

² A white limestone builder's fragment with a red-painted

inscription gives the year 9 (*ht sp 5*). This was found in the filling of mastaba G 1203 and may have been from the lining of the burial-chamber of that mastaba.

The cores of type IV by their rough finish were obviously intended to be faced as type III or cased in white limestone. With the introduction of the massive core-work, six of the older mastabas of type II were enlarged with massive core-work against which a casing of white limestone was either built or begun. These enlarged cores were situated three in Cem. G 1200, one in Cem. G 2100, and two in Cem. G 4000. The later cores of type II a in Cem. G 1200 and Cem. G 2100 were without doubt contemporary with the massive cores in Cem. G 4000.

The introduction of the massive core is of special importance for the dating of the great isolated mastaba G 2000. All the early cores of this masonry, including the twelve original cores in the Eastern Field, were built without recess for an interior chapel. G 2000 is of type III, massive core with small-stepped facing, but recessed for an interior chapel. The only other mastaba of this type is G 7410+20, in which the chapel recess was reconstructed in a core of type IV i, about the year 20 of Cheops. The mastaba G 2000, as prepared for the white casing, cannot be dated previous to this same year.

c. The Relative Positions of the three Early Nucleus Cemeteries in the Western Field

Remembering the tendency of the Egyptians to associate members of the same family in all their cemeteries, I take the position of the three early nucleus cemeteries in the Western Field as characteristic of three family cemeteries each representing a different group in the family of Cheops. Cheops is known to have had four recognized queens and may also have had concubines, some of whom may, by reason of the favour they enjoyed, have had a standing with the king practically equal to that of a queen. It must be assumed that each of these ladies was the potential mother of a group of royal children, and the centre of a party of adherents animated by blood relationship and ambition. Some of these parties may have coalesced for political and other reasons, so that the number of associated groups in the royal family may not have corresponded exactly to the number of mothers in the king's harem. Nevertheless, each of the groups must have represented in its origin a subdivision in the royal family. In a great field like that west of the Cheops pyramid each of such subdivisions would naturally have selected different sites for the building of the tombs of the members of the group, even though the actual construction was carried out by the public works department of the king. I therefore designate the three cemeteries G 4000, G 2100, and G 1200 as family cemeteries each representing a different associated group in the family of Cheops.

Taking as the point of departure that the fifteen initial mastaba-cores were constructed by Cheops in the early part of his reign, probably in the first five years, the question arises which of the three groups of mastabas was begun first. The initial mastabas of Cem. G 4000 occupy the primary site both by position and by the character of the rock. The cores of this group are uniformly of the more expensive type used in the early cores (type II b), and founded the largest of the three nucleus cemeteries. It includes the largest mastaba (G 4000) in the three cemeteries, which is exceeded only by the isolated mastaba G 2000. The family group represented by the five initial cores of Cem. G 4000 was obviously more important in the favour of Cheops than the other two family groups. It may be, therefore, that this group received the most favoured site about the same time that the other two sites were assigned to or selected by the other two family groups.

The site occupied by the five initial cores of Cem. G 2100 is secondary in desirability to Cem. G 4000. These five cores, united as a group by the presence of the portcullis groove in the cased part of the shaft, include two mastabas of abnormally large size, G 2120 and G 2130, two of abnormally

small size (G 2100 and G 2110), and one a little larger than normal size (G 2210). One of the large cores, G 2130, is of the more expensive type II b, and all the rest are of type II a. The remaining six mastabas of this cemetery, all of type II a with plain 2-m. shafts, were built later on a unified plan linked by alinement with the initial group of five. With one possible exception, G 2135, these six were used after the reign of Cheops, and two or three were used after the end of Dyn. IV. Thus the family represented was smaller and less powerful than that of Cem. G 4000, and less enduring than that of Cem. G 1200.

The site of Cem. G 1200, far away to the west, is apparently the least advantageous of the three, but is situated on good, sound rock. The cores are all of the less expensive type II a, but eight of the ten have slab-stelae and the largest core is next in size to the chief core in Cem. G 4000. Moreover, three of the six cores which were enlarged with core-work of type IV iii were in this cemetery. These three cores belonged to royal children and the family appears to have increased in importance after the beginning of the cemetery. The ten cores were all used for burials. It is possible that the siting of the cemetery may even have taken place previous to the siting of the other two, owing to the quarrying and building operations taking place around the First Pyramid.

To sum up the evidence, the order in time in the selection of the three sites is not determinable. In order of importance, the family group represented by the five initial mastabas of Cem. G 4000 undoubtedly comes first and contained a greater number of royal children and highly placed adherents. The other two families seem in the beginning to have been of about equal standing, but that of Cem. G 1200 appears to have increased in importance about the time of the introduction of core-type IV iii, that is, towards the end of the reign of Cheops. Finally, the fifteen initial cores of the three cemeteries were all built within a few years which I estimate to have terminated about year 5 of Cheops.

d. The Growth of the Nucleus Cemeteries in the Western Field

After the construction of the fifteen initial cores of the three nucleus cemeteries, each of these cemeteries was increased by the construction of additional cores following lines established by the initial cores. Cem. G 1200 received five more cores following the rows and lines established by the original block of four cores and of the same type of core-work (type II a). Cem. G 2100 was enlarged by the addition of six cores of the same type, alined in the E-W direction with the two larger cores of the second line from the west. In both these cemeteries the additions clearly followed in immediate succession to the construction of the initial cores, and their construction would have required not much more than from three to ten years. It may be assumed that the cores of both cemeteries were completed by the end of the reign of Cheops and that their growth was definitely stopped by that event.

Cem. G 4000 shows the addition of thirty-seven cores which introduced two new types of core-work. The history of the construction of these thirty-seven cores offers a much more difficult problem. All of them were originally of type IV i. The two E-W rows established by the original blocks of four cores of type II b were continued eastward by the addition of four cores in row 6 (the northern row) and four in row 5 (the second from the north). Then row 4 was begun south of the western line of the original block and carried eastwards to line 7, and north of G 4740 were then added G 4750 and G 4760. All these rough massive cores were obviously intended to be cased in some manner. Two of them, the third in row 5 and the first in row 4, were faced with small-stepped masonry, thus creating the new type III, resembling in outer appearance the old type II. The evidence of this growth of Cem. G 4000 is in the first place the position of these cores with reference to the initial four, and secondly the occurrence of the slab-stelae. The slab-stelae were fixed in emplacements in the core-

work of type IV and in the facing of cores of type III. The mastabas bearing this mark of assignment by Cheops were four or five of type IV in row 6, one of type III and one of type IV in row 5, and one of type III in row 4. The use of the slab-stela clearly marks the cores which by position must be reckoned as in immediate succession to the initial rectangle. For the construction of these eight additional cores probably not more than five years is to be reckoned, which would bring us to about the year 10 of Cheops.

The completion to line 7 of the three rows of cores thus established in Cem. G 4000 involved the construction of nine cores, all of type IV i. This was obviously done in immediate succession to the cores with slab-stelae, and as the assignment of the stelae may have been interrupted after the addition of the seventeen cores involved, the nine cores in question may also have been constructed by year 10 or a little afterwards. Certainly the construction of all the cores now dealt with (twenty-two cores) might easily have been completed by the year 15.

It is from this point that the chronology of the growth of Cem. G 4000 becomes obscure. Three more rows were added on the south, but the first two lines on the west were discontinued, probably owing to the presence of the Schiaparelli quarry. The three southern rows were constructed as far as line 7 in the order: row 3, row 2, row 1. Row 3 has one burial dated to the reign of Chephren, and this row was already in place at that time and may have been constructed in the reign of Cheops in immediate succession to the row 4. The cores in rows 2 and 1 were all used after the reign of Cheops and for the greater part in Dyn. V. The cores were all originally of type IV i with one 2-m. shaft, and there is no evidence to prove that they were constructed at any long interval after the twenty-two cores mentioned above. If the twenty-two cores were constructed, as I believe, by the fifteenth year of Cheops, there would have remained eight years of that reign in which to construct rows 3-1, and this was a period in which the public works department of Cheops was at the height of its efficiency, in particular in regard to speed of construction.

There remains line 8 of this cemetery, consisting of four mastabas of type IV, extending rows 2-5, and one mastaba of type II a with two shafts, one intrusive, extending row 6. The last core on the north ending row 6 by reason of the reversion to type II a was probably built as the last core in Cem. G 4000. The first core on the south was never built, and it is probable that the line 8 from row 2 to row 5 was built after row 3 and perhaps after row 2 of the rest of the cemetery. Curiously enough, two of the mastabas in this row had slab-stelae, G 4840 and G 4860. G 4860 ends the sixth row, of which five, G 4160-4560, had slab-stelae; the absence of slab-stelae in G 4660 and G 4760 isolates the slab-stela of G 4860. It is necessary to conclude that the two stelae G 4840 and G 4860 were not assigned in immediate succession to the stelae in the mastabas in the western part of the cemetery. The facts do not exclude the construction of the cores of line 8 by Cheops, but they indicate an interruption in the assignment of cores by the presentation of slab-stelae. Thus the presentation of these two stelae, or at any rate the fixing of the two stelae on the cores concerned, was probably later than the reign of Cheops. There are at least three explanations of the presence of the two isolated slab-stelae in line 8:

- (a) The stelae may have been made in the workshops of a later king, Chephren or Mycerinus, although later kings seem not to have practised the presentation of slab-stelae.
- (b) The slab-stelae may have been presented by Cheops and kept in storage until a few years after the other stelae were used.
- (c) The two stelae were made by the owners of the two mastabas and affixed by them to cores assigned to them by a king later than Cheops.

In fact, one explanation may apply to one of the two stelae and another to the second.

The evidence is not decisive. I would interpret the facts stated above, taken in conjunction with the fact that a majority of these later cores were unused until after the death of Cheops, as indicating that the whole of Cem. G 4000 was built in the reign of Cheops and by his order. Thus I conclude that all the cores of three nucleus cemeteries in the Western Field, making a total of sixty-three cores, were built in the reign of Cheops for three different groups of associated persons, each based on a subdivision of the family of Cheops. The construction of these cores is to be reckoned as beginning before year 5 of that king and continuing until the end of his reign.

c. The Three Remaining Nucleus Cemeteries and the Isolated Mastaba G 2000

After setting up the above chronology for the three earliest cemeteries on a unified plan, the sixty-three cores built in the Western Field in the reign of Cheops, there remain three other nucleus cemeteries on a unified plan to be discussed, Cem. G 7000, the Cem. en Échelon, and Cem. G I S.

(1) *The Nucleus Cores of Cemetery G 7000*

As explained in a preceding section, Cem. G 7000 was originally begun by twelve cores of type IV i laid out in three E-W rows and four N-S lines. I have estimated that these twelve original cores were built about years 15-17 of the reign of Cheops. They appear never to have received slab-stelae, and in conformity with this and with the time-plan laid out for Cem. G 4000, they were constructed after the first twenty-two cores of that cemetery and contemporaneous with some of its later cores.

These twelve original cores introduce a new normal size, double the normal size of the western cores. The position, to the east of the Great Pyramid and the first two pyramids of the queens, combined with the increased size, proves that these cores were intended for the most important members of Cheops' family living at that time. It is possible that cores in the Western Field may have been designed for the burial of these same persons or some of them. The laying out of so large a cemetery, for twelve persons, on a unified plan after the middle of the reign clearly marks a change in the plans the king had made for the burial of his family and adherents. From this time the Eastern Field became the desirable place of burial, and the sites in it were assigned only to important persons of the blood royal. In the Western Field, while the initial mastabas had been the tombs of princes and princesses (seven known persons out of fifteen), persons of lower rank had received cores alongside the royal children and the number of these increased with the growth of the nucleus cemeteries. After the construction of the twelve eastern cores of larger size, that is, after the construction of the first twenty-two cores in Cem. G 4000, only one princess, Weneshet, is known to have been buried in the Western Field, and at least twenty-three cores (eighteen in G 4000 and five in G 2100) remained unused at the death of Cheops. I have assumed above that the construction of cores in Cem. G 4000 continued after the foundation of Cem. G 7000, and I believe it plausible that the public works department, having continued for so long the execution of the plan of this cemetery entrusted to them by royal order, continued the work automatically. Probably Cheops had some idea of continuing the Western Cemetery for the burials of members of the family and the court not of the high rank of those for whom the eastern cores were reserved.

Cheops altered the plan of his own tomb at least twice, each time increasing the size and splendour of that monument. In accordance with this increase in the magnificence of his ideas I would place first of all the original conception of the Eastern Cemetery. The twelve original cores were obviously intended to be cased with fine white limestone with exterior stone chapels of the same material. The idea, if it had been carried out, would have produced a beautiful white cemetery of twelve tombs, but

the splendour of the conception was improved by transforming the twelve cores into eight larger twin-mastabas, each designed for a son of Cheops and his wife, who was often his sister. The two northern rows of cores were joined up in pairs by connecting massive core-work, and the old cores designed for exterior chapels were reconstructed to take interior chapels. The design appears also to have included subsidiary exterior rooms also of white limestone. The four original cores of the southern row were each increased by a large addition of massive core-work of type IV iii to form a southern row of four twin-mastabas. This alteration of the plan to provide eight very large twin-mastabas I estimate to have been carried out about the year 20 of Cheops.

The growth of this cemetery by the addition of five massive cores around the SE corner can be positively assigned to the reign of Chephren, probably years 1-15. All the other mastabas built on lines laid down by the nucleus cemetery can be proved to have been built after the fifteenth year of Chephren.

(2) *Mastaba G 2000 in the Western Field*

The great isolated core G 2000 is situated on the lower northern slope of the western terrace, with G 4000 on the south, Cem. G 2100 on the east, and Cem. G 1200 on the west. It is not alined with any of these three nucleus cemeteries and is separated from them by spaces of from 50 to 75 m. The name of the owner is unknown, and the only evidence of its date lies in the type of shaft (type 2) and in that of the core, type III ii. This core is built of massive masonry with two recesses for offering-places, and is completely faced, including the two recesses, with small-stepped masonry. By an alteration in the plan the smaller northern recess was filled up with masonry and faced with small-stepped courses like the rest of the facing. There are only four examples of type III in the whole Giza Necropolis. Two of these, G 4350 and G 4140, are of type III i with exterior chapels and are probably to be dated to the years 5-10 of Cheops. The conversion of cores of type IV i into type III i was probably abandoned as useless when the practice was introduced of casing these cores in fine white masonry. The only example of type III ii (with chapel recess) other than G 2000 is G 7410+20. I estimate this core to have been completed about the year 20 of Cheops, and it is plausible to assume that G 2000 was constructed not far from this date. By this conclusion the core G 2000 was finished long after the construction of the fifteen initial cores of the western cemeteries, after the construction of the twenty-two cores in Cem. G 4000 and after the twelve original cores of the Eastern Field.

This core is the largest in the Western Field and equalled only by the great mastaba (G 7510) of Prince Ankh-haf in the Eastern Field. The owner whose name has escaped us was clearly a man with great resources at his disposal. Of the four cores in the Western Field larger than the normal size, three and probably four belong to princes of the blood royal, and it is very plausible to ascribe the great resources of the owner of G 2000 to his blood relationship to the king. I would suggest that the owner of G 2000 may have been, like Prince Ankh-haf, a blood brother of Cheops himself, a son of Sneferuw.

(3) *The Cemetery en Échelon in the Western Field*

The Cem. en Échelon was, as has already been explained, built after the completion of the two cemeteries of cores G 4000 and G 2100, which lie immediately west of it. It consists of twenty-five mastabas arranged in three N-S lines, with nine cores in each of the first and second rows and seven in the eastern row. The first two cores of the eastern row were either never constructed or were destroyed when G 5110 was built, probably in the reign of Mycerinus. The cores are all of the same type, type II a, of a poor quality of stone, and the cemetery was clearly laid out on a unified plan, the

peculiar feature of which was that each core left the chapel end of the core behind it exposed to view from the east.

The facts which have a bearing on the date of the construction of this block of cores are as follows:

- (a) The earliest dated burial in the cemetery was in the reign of Mycerinus, and another is dated to Shepseskaf. This proves that the cores were certainly constructed before the end of the reign of Mycerinus.
- (b) The *échelon* principle, a peculiar and characteristic arrangement, does not occur in any of the Cheops cemeteries which can be identified. In the Eastern Field it appears to have been introduced as an afterthought when the mastaba G 7530+40 was reconstructed for Queen Hetepheres behind the mastaba of Princess Merytyetes. This was about the year 13 of Chephren, and the arrangement was carried out when the four nummulitic mastabas of the sons of Hetepheres were added to this group. This fact suggests, but does not prove, that the Western Cemetery Echelon was constructed after year 13 of the reign of Chephren.
- (c) The siting of the mastaba G 5110 indicates, I think, that the Cemetery Echelon was already built when that mastaba was constructed. This mastaba I ascribe to the reign of Mycerinus, probably about the middle of the reign. By this fact the Cemetery Echelon was built either early in the reign of Mycerinus or before his accession.
- (d) Most of the cores in the Cemetery Echelon were constructed *ab origine* as two-shaft mastabas (2-m. shafts). The earliest dated two-shaft mastaba at Giza is G 7650, constructed in the first half of the reign of Chephren, and this example was followed by all the succeeding mastabas datable to that reign. This fact indicates that the Cemetery Echelon was built after the middle of the reign of Chephren.
- (e) The Cemetery Echelon is traversed by a rubble ramp for the transportation of the stone, which coming from the space between Cemetery G 4000 and the great southern boundary wall passes diagonally across the unoccupied site of G 4810, along the back of G 4920, between that core and 4930, eastward between G 4920 and 4930, over the northern addition to G 5020, under the later mastaba G 5131 (built against the southern end of G 5130), and so to the back of the large mastaba G 5230; this ramp was later in date than the Echelon Cemetery, and previous to the construction of the later mastabas G 4811, G 5131, and G 5230; the destination of the transported stone is obscure.

The facts prove that the cemetery was built previous to the middle of the reign of Mycerinus and after the middle of the reign of Chephren. The relation of this cemetery to Cemetery G 4000 and Cemetery G 2100 indicates that the cores were built soon after the completion of these two blocks of cores, which I assign to the end of the reign of Cheops. Thus I form the opinion that the Cemetery Echelon was probably built in the reign of Chephren and by his public works department.

(4) *The Cores in Cemetery G I S*

The date of the construction of the ten massive cores, probably originally of type IV i, also presents a difficulty. By position this cemetery appears to be the last of the cemeteries presenting a unified plan constructed at Giza. The single row of cores is divided into two groups. The eastern group of six cores (Nos. 5-10) was constructed in order from east to west and was begun after the construction of G I-c towards the end of the reign of Cheops. The cores were generally of the two-shaft type, and one of them (No. 6) was cased early in the reign of Mycerinus. North of the space between Nos. 6 and

7 is an unfinished cutting which appears to have been intended to be finished as a small pyramid, and was probably sited here before the construction of the three pyramids on the east. The cutting had obviously been abandoned before this line of six cores was laid out. Between this eastern group and the western group is a wide, empty space now occupied by a later mastaba with another, still later, south of it. This space could not have been left by Cheops for the construction of a small pyramid, and this fact confirms the dating of the row to a period later than Cheops. The western group consists of four cores aligned with the eastern group and similarly spaced. One of them, No. 1 a, was either never finished or subsequently nearly destroyed for its stone. While the eastern group seems to be attached to Cem. G 7000, the western group would appear rather to have a relation to the Western Field and in particular to the massive core G 5110 built in the reign of Mycerinus.

The eastern group of six cores was certainly built after the reign of Cheops and before the casing of No. 6 in the years 2-4 of Mycerinus. The western group of four cores was apparently a separate operation undertaken after the completion of the eastern group.

The core-type in all ten was massive type IV i, but five of them have been reconstructed with interior chapels (Nos. 2, 3, 6, 8, and 10). The interior chapel recess had come into use in the Eastern Field about the year 20 of Cheops. The additions to the southern row of original cores in that cemetery were constructed with chapel recess (type IV iii). Four of the massive cores built in the reign of Chephren had chapel recesses, and the interior chapel was practically universal after the accession of Chephren. It seems, therefore, curious that the cores of Cem. G I S constructed after the accession of Chephren were not built *ab initio* with chapel recesses. But the same is true of the Cem. en Échelon, also built after the accession of Chephren. The explanation probably lies in the fact that the custom had been established of building cores in regular blocks during the construction of the three western and the original eastern cemeteries, and that this custom was followed in the Échelon Cemetery and in G I S, leaving the construction of the chapel to a later operation.

The fact that the cores of Cem. G I S were of massive masonry, while those of the Cem. en Échelon were of the small-stepped type, points to the two cemeteries having been carried out by different bodies of workmen, and probably at different times. It is to be noted that the Cem. en Échelon followed quite naturally the normal size used in the preceding cemeteries of the Western Field. The cores of the Cem. G I S, on the other hand, followed the larger norm of the Eastern Field. I have come to the conclusion that Cem. G I S was later than the Cem. en Échelon, and would assign it to the end of the reign of Chephren or the beginning of the reign of Mycerinus. This is in accord with Professor Junker's dating based on the fact that the cores had been built in foundation trenches dug through a layer of powdered granite which he ascribes to the reign of Chephren.

f. The Chronological Order of the Blocks of Cores

In order to give an oversight of the conclusions to which I have come as to the date of the construction of the cores in the six nucleus cemeteries, I have compiled the following table:

(a) Cores completed by the year 5 of Cheops:

Cem. G 4000: G 4000, 4150, 4250, 4160, 4260.

Cem. G 2100: G 2100, 2130, 2120, 2110, 2210.

Cem. G 1200: G 1223, 1225, 1203, 1205, 1201.

(b) Cores completed by the year 15 of Cheops:

Cem. G 4000: G 4360-4760, G 4350-4750, G 4140-4740: 17 cores, or, with the addition of the 5 initial cores, 22 cores.

Cem. G 2100: G 2135, 2140, 2150, 2155, 2160, 2170: total 6 mastabas, or, with the initial 5, 11 cores.

Cem. G 1200: G 1207, 1209, 1227, 1233, 1235: 5 cores, or, with the 5 initial cores, a total of 10 cores.

(c) Cores completed after year 15 of Cheops:

Cem. G 4000: the 15 cores in rows 1-3, and the 5 cores in line 8.

(d) Cores completed about the year 17 of Cheops:

Cem. G 7000: the 12 original cores of the larger norm.

(e) Cores completed by year 20 of Cheops:

Cem. G 7000: the cores of the 8 twin-mastabas which incorporated the original 12 cores.

(f) Cores completed in the first half of the reign of Chephren:

Cem. G 7000: G 7150, 7650, 7530 + 40, 7450, and probably G 7350: the mastaba G 7050.

(g) Cores completed about the middle of the reign of Chephren:

Cem. en Échelon in the Western Field: 25 cores.

(h) Cores completed in the latter part of the reign of Chephren or in the first two years of Mycerinus:

Cem. G I S: Nos. 5-10.

(i) Cores completed in the reign of Mycerinus:

Cem. G I S: Nos. 1, 1 a, 2, and 3: G 5110.

The details of this time plan are only approximately calculated and are, of course, subject to revision. But the general lines of the chronology of the construction of these cores, especially for the reign of Cheops, seemed to me fairly reliable, and it is on the basis of this chronology that I approach the chronology of the finished mastabas.

VI

THE BURIAL-SHAFTS OF THE FINISHED MASTABAS OF THE NUCLEUS CEMETERIES

THE finished mastaba ready for the burial included the completed burial-shaft and chamber, the casing, and the decorated chapel. Actually these represent three stages, but it appears that the three stages were so closely connected in time that they must be dealt with as one. That the excavation of the shaft in the rock below the mastaba-core was a later operation than the construction of the core is shown by the fact that in some cases the rock-shaft was never excavated, and in other cases a smaller shaft was excavated usually about one-quarter the size of the old 2-m. shaft. In a few cases the excavation of the shaft took place even after the decoration of the chapel.

The consideration of the date of the completion of the mastaba depends on the four different parts of the mastaba and is to be discussed as follows:

1. Type of burial-shafts and chambers.
2. Types of casing.
3. Types of chapel.
4. The decoration of the chapel.
5. Statues and *serdabs*.
6. Types of burials.

In this chapter I deal with the type-forms of the burial-shafts.

1. TYPES OF SHAFTS AND BURIAL-CHAMBERS

The burial-shafts of all the cores of types II, III, and IV in both the Eastern and Western Fields (Cems. G 1200, 2100, 4000, en Echelon, and 7000) have openings approximately 2 m. square. The upper part where the shaft passes vertically through the filling of the core is cased with masonry of the same type as the retaining wall of the core and is counted as part of the core construction. The lower part is excavated in the rock. On the south side, at the bottom of the rock-shaft, opens a short passage which leads to the burial-chamber through the north wall of that chamber near the eastern side. The chambers are rectangular and unusually high except for a few unfinished examples. In the SE corner is either a canopic pit in the floor or a canopic niche in the south wall. The coffin stood along the west wall, orientated N-S. The connecting passage, sometimes sloping, but more often horizontal, entered the chamber high up, in the middle of the wall, or near the floor. In all the early shafts the chambers were lined and paved with white limestone blocks but not roofed, being cut in sound rock. After the burial, the entrance passage was blocked with masonry of fine white limestone set in plaster (sulphate of lime), and over the opening, close against the southern wall of the shaft, was set upright a great slab of limestone (portcullis stone). In five cases in Cem. G 2100 a groove ran down the SE and SW corners of the shaft for the lowering of this great slab. This also served to prevent the stone being easily pulled back by thieves. The shaft after the burial was filled with gravel and rubbish or packed with small blocks of limestone (see the secret tomb of Hetep-heres I). We have no evidence that the

mouth of the shaft was blocked with masonry, except when the mastaba was roofed with stone (see 5230, 2100-annex).

In the light of the development of the substructure of the Egyptian tomb the origin of the lined chambers at Giza becomes clear. Originally the lining of the burial-chamber was a feature peculiar to the open-pit grave of the Predynastic period, and in these the lining was of wood resembling a box with an open bottom. With the introduction of the c.b. lined grave, the wooden lining developed on the one hand into a wooden coffin, and on the other into a more carefully constructed wooden lining. The open-pit type of grave continued to be lined with c.b. and roofed with wood and brick vaults, until the introduction of the deep underground burial-chambers. As early as the reign of Zer, an open-pit grave (type I B, Q S 2185) was lined and roofed with stone. The burial-chamber of King Khasekhemuwy at Abydos was lined with stone, and several of the deep stairway tombs had chambers lined with stone. The construction of a stone burial-chamber in a great open pit was introduced in the pyramid of Zoser. This type of substructure dominated the development of the royal tombs down to the accession of Cheops, and at Medum was introduced in private tombs in a modified form in the reign of Sneferuw. This Medum substructure consisted of a great open pit and trench in which was constructed a roofed stone chamber with a sloping approach also built of stone and roofed. The lined chambers approached by a shaft were directly derived from the sloping-passage type. At Medum in the bad rock of that site the chambers of the shaft type of substructure were either built in open pits or in cavities excavated in the bad rock, and in both these variations the chamber was necessarily roofed with stone. At the same time that such shaft-tombs were being constructed at Medum, Cheops was making the early tombs of his necropolis at Giza, but in these, owing to the sound rock, no artificial roof was necessary, and the rock chamber was merely lined and paved with white limestone. The other features of these Giza substructures, the shaft with portcullis slab, the connecting passage, the form of the burial-chamber, and the canopic niche or pit, were also employed in the contemporaneous shaft-tombs at Medum and Dahshur, and before this in the stairway tombs and in the sloping-passage tombs of the reign of Sneferuw.

a. The Classification of the Burial-shafts at Giza

The development of the substructure of Egyptian tombs has been traced in *Tomb Development* from the open-pit form of Dyn. I to the shaft type of the reign of Sneferuw (substructures types I-VI). The Giza forms are of type VI with a few examples of the later sloping-passage type of the Old Kingdom. All are here reckoned as of type VI, but for the sake of convenience the Roman figure is omitted and the variations are marked with Arabic numerals and letters.

The orientation of the long axis of the substructures of type I was N-S. When the stairway was introduced in type II, the general orientation (N-S) of the older tombs was maintained, but a few notable examples (the tomb of Wedymuw at Abydos) were orientated E-W. The stairway entered the main chamber more often from the long side, but occasionally from one of the short ends. The stairway ended in a doorway through the c.b. lining of the open pit, and the doorway varied in thickness with the thickness of that lining. The same variations appeared in type III, known only in Upper Egypt.

When the rock-cut substructure (type IV) was introduced at Memphis early in Dyn. II, the entrance from one end (usually the north) became almost obligatory. The complex of rooms was extended therefore in a N-S direction and the main rooms were N-S rooms entered from one end. The burial-chamber which contained the N-S burial-receptacle was also a N-S room, but was usually entered from

one side. Again, a few examples occur of an E-W burial-chamber with the burial-receptacle lying N-S along the west wall of the chamber.

When type V, the sloping-passage type, was introduced in the tomb of Zoser (Step Pyramid of Saqqarah), the open trench was of the T-form with a long, sloping passage descending from the north to a cross-trench (E-W) in which was built the actual burial-chamber. The examples include the two burial-chambers of the Zoser complex, the unfinished pyramid of Zawiet-el-Aryan, and a number of private tombs at Medum. In all these the burial-chamber is either N-S or E-W without apparent cause for the variation, except in the arbitrary desire of the owner. All these have a doorway or connecting passage between the approach and the chamber itself.

The Medum tombs with sloping-passage substructures are from the transition period from Dyn. III to Dyn. IV. At Saqqarah, in this period which ends in the full development of the shaft substructure (type VI), the chambers present again the N-S and the E-W forms often without doorway or passage. The early shaft-tombs also present the same variations. The larger and better shafts have a doorway or connecting passage.

It has been noted above that the burial apartments of the substructures of type IV were made on the south of the long stairway. The sloping-passage structure (type V) by its form necessarily had the burial-chamber on the south also. When the shaft-type VI came in as a substitute for types IV and V, it followed the practice of the older substructures and had the chamber on the south. The mastaba itself maintained the long proportions of the old mastaba with long N-S stairway or sloping passage, and the natural proceeding was to follow the old position of the burial-chamber on the south, approximately behind and below the chief offering-place. All the mastabas with substructures of types I-III had one burial-place in each. The mastaba of type IV also generally had one stairway, but a number were 'twin-mastabas' with two burial-places and two pairs of offering-places, bringing the burials of husband and wife into intimate association without resorting to *Sati* burial. The early shaft mastabas were also one-shaft or in a few cases 'twin-mastabas'. In all these the placing of the burial-chamber south of the shaft was both in accordance with previous practice and physically possible from the size and form of the mastaba. It was not until the multiple-shaft mastaba came into use and the greater part of the interior of the mastaba was taken up by shafts that the southern position of the chamber had to be abandoned in order to prevent the chambers from breaking into each other. The one-shaft and the 'twin-mastaba' were replaced in the reign of Chephren by the two-shaft mastaba with a single pair of offering-places. The multiple-shaft mastaba was used in family mastabas in the latter part of Dyn. IV. With the multiple-shaft mastaba the chamber began to be placed, as convenient, on the south, north, east, or west. Nevertheless, the south position continued to be used particularly for the chief burial-chamber.

When the whole series of chambers at Giza is examined, it is seen that the shafts present nine different types:

- Type 1: large lined chambers, always south of the shaft, entered by a long connecting passage at or near the east end of the north wall of the chamber; chamber lined and paved with fine white limestone dressed smooth, but not roofed (Fig. 19).
- Type 2: like type 1 but with a ramp or stair inside the chamber, leading from the floor of the passage to the floor of the chamber; linings designed, but in half the cases left unexecuted (Fig. 20).
- Type 3: like type 1 but unlined; high chambers (Fig. 21).
- Type 4: like type 3 with low chamber; roof-level of chamber at roof-level of passage; height of chamber as height of passage on inside, or with low step from floor of passage to floor of chamber, connecting passage not less than 0.5 m. in length (Fig. 22).

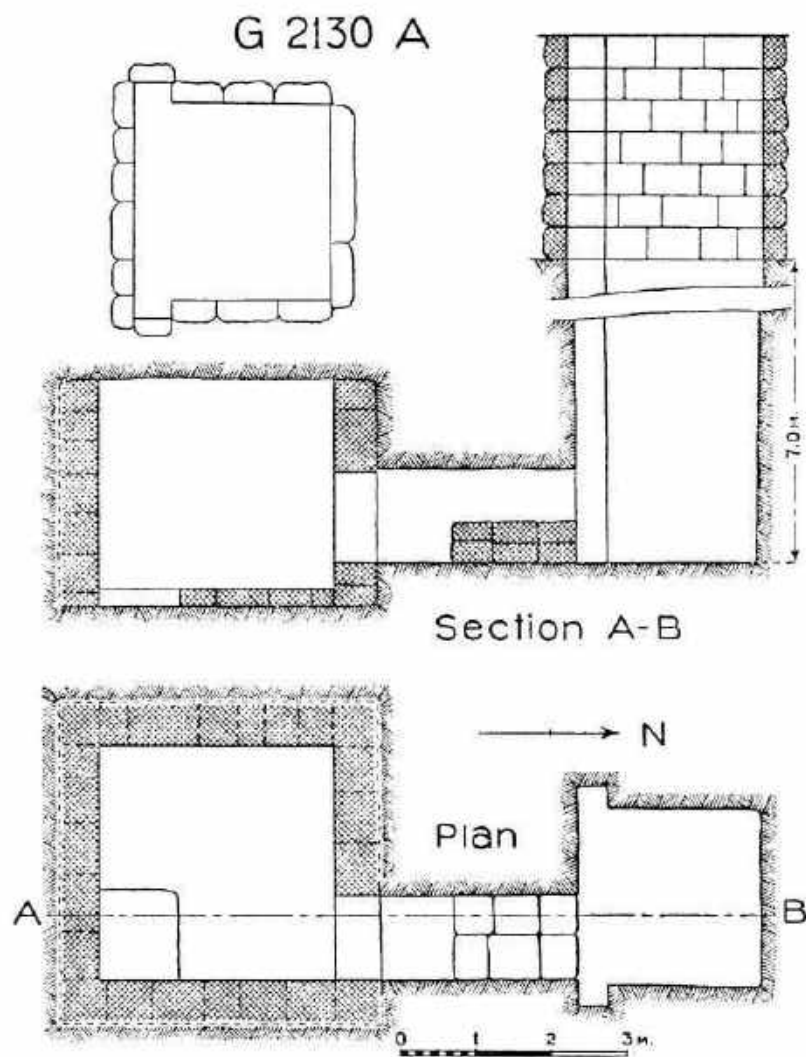


Fig. 19. Type 1

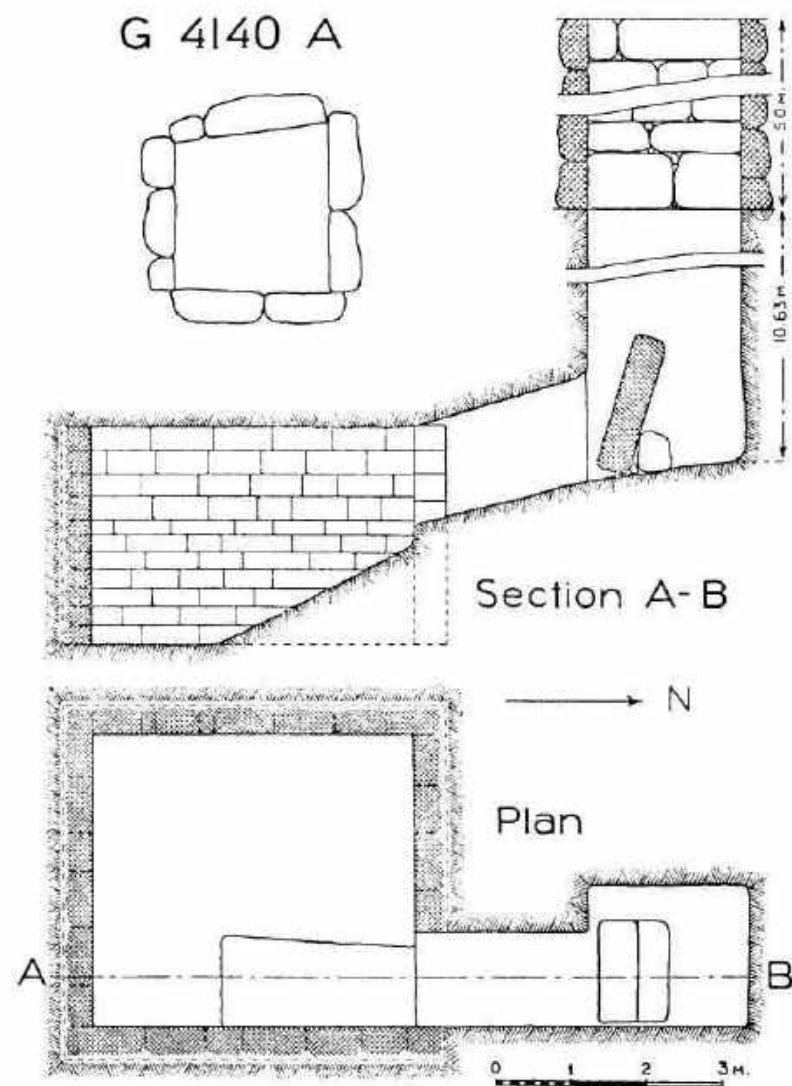


Fig. 20. Type 2

Type 5: short connecting passage or door-jambs between shaft and chamber less than 0.5 m. in length (Fig. 23).

Type 6: without connecting passage or door-jambs; chambers open directly into shaft (Fig. 24).

Type 7: open shaft with chamber constructed in shaft or with burial unprotected as in open-pit grave (Fig. 25).

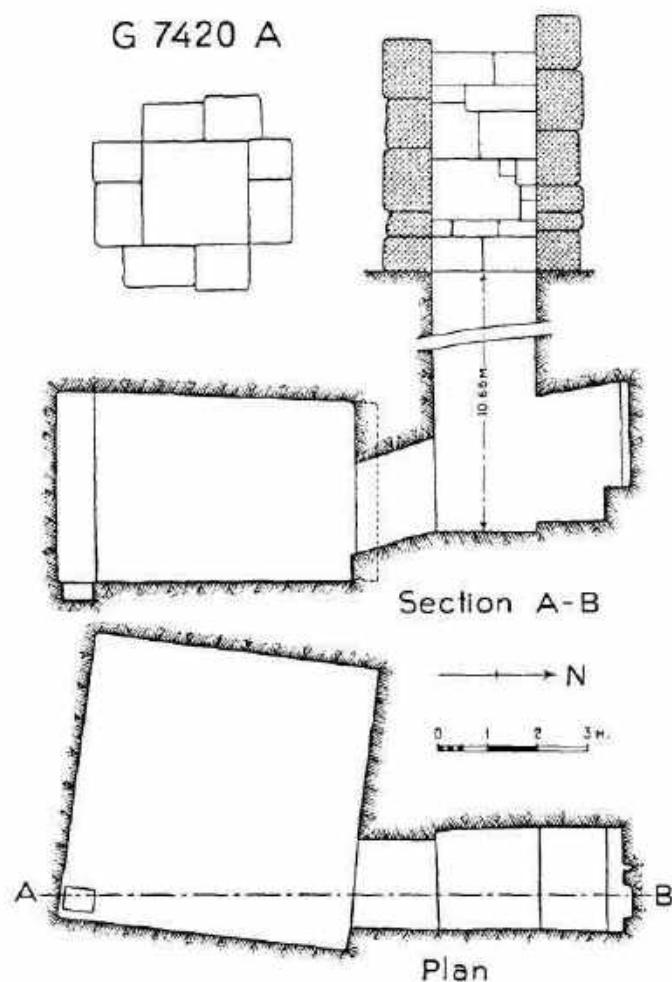


Fig. 21 Shaft type 3

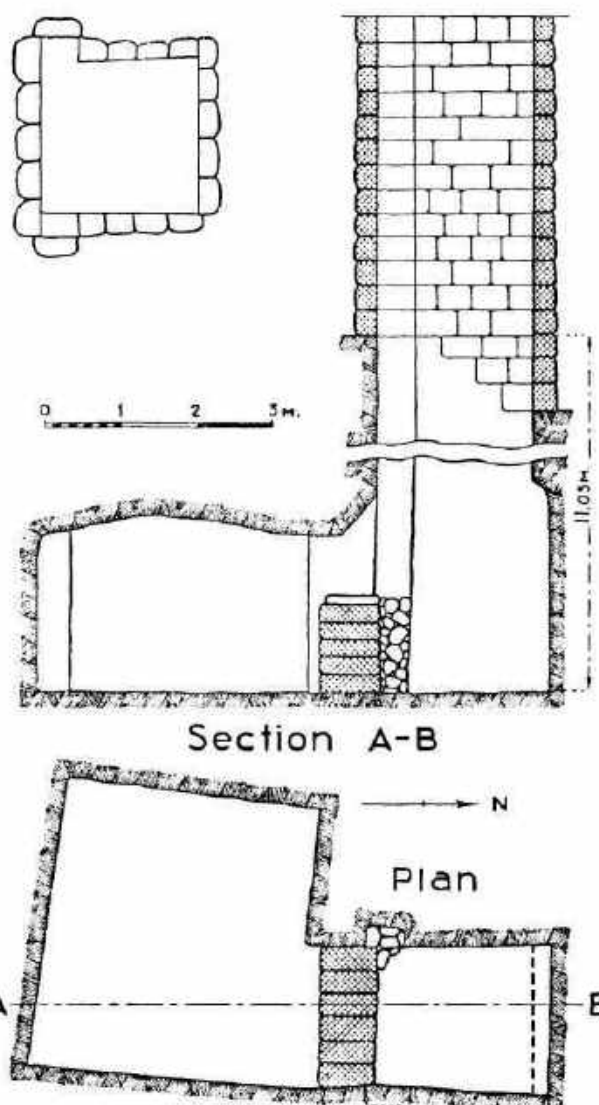


Fig. 22. G 2110 A

Type 8: built shaft and chamber which does not enter rock; forms as types 5 and 6 (Fig. 26).

Type 9: later sloping-passage type of Old Kingdom (Fig. 27).

The position of the chamber is always on the south in types 1, 2, and 3. It begins to be variable in type 4 but is usually on the south. In types 5 and 6 the position of the chamber may be on any side of the shaft. In type 7 the small roofed chamber in the shaft is almost always a N-S chamber, but may be in the middle of the shaft or against the east or the west side. Type 8 has the chamber north or south in a majority of examples, but may have it on any side of the shaft.

The types 1-6 and 8 present the two variations observable in all the earlier types, those with E-W axis and those with N-S axis. With the introduction of the chamber on the north, west, or east of

G 4430 A

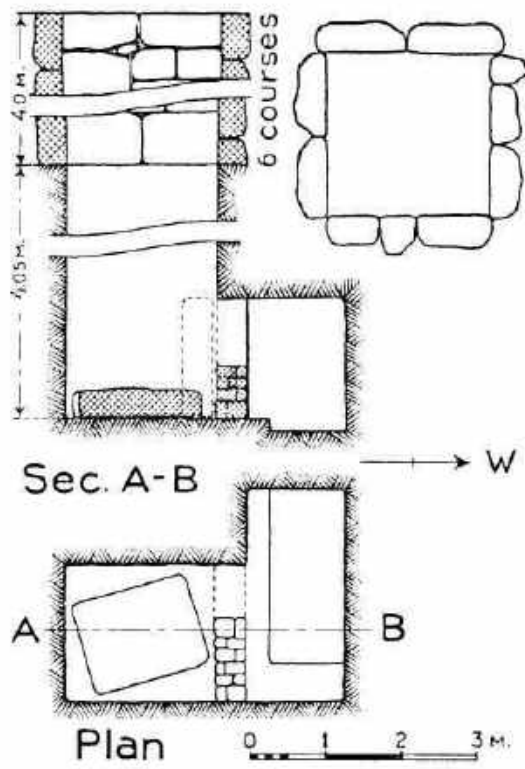


Fig. 23 Shaft type 5

G 4320 A (2)

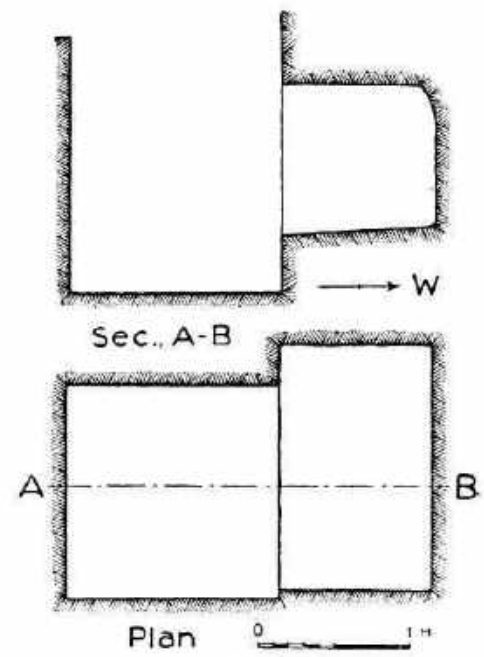


Fig. 24 Shaft type 6a(2)

G 1367 B

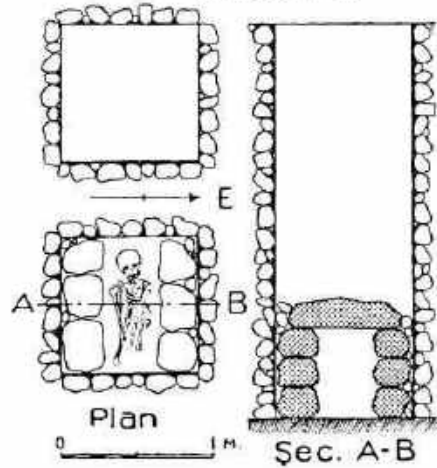


Fig. 25 Shaft type 7a

G 1362 C

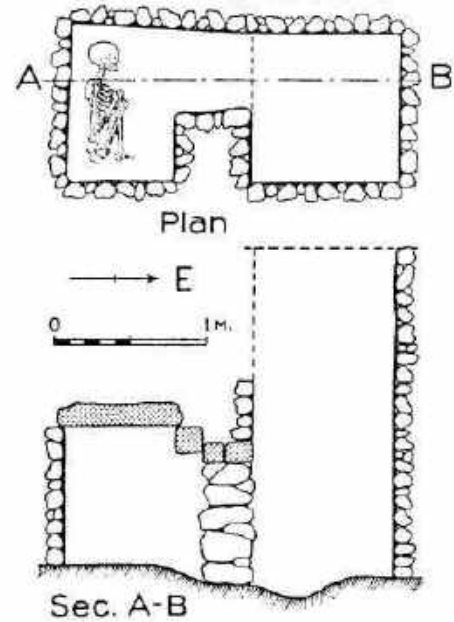


Fig. 26 Shaft type 8

the shaft, the old designation of N-S and E-W has to be modified, and I mark these two features as follows:

Variation a: chamber parallel to the adjoining side of the shaft; when the chamber is on the south or north, its long axis is E-W; when the chamber is east or west of the shaft, its long axis is N-S (Figs. 28, 29).

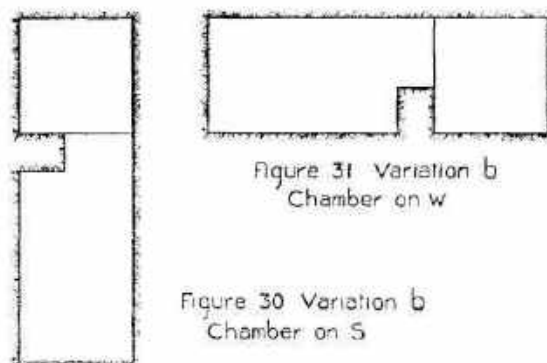
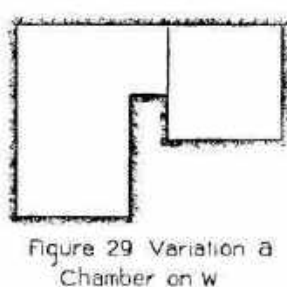
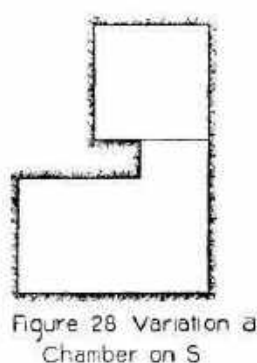
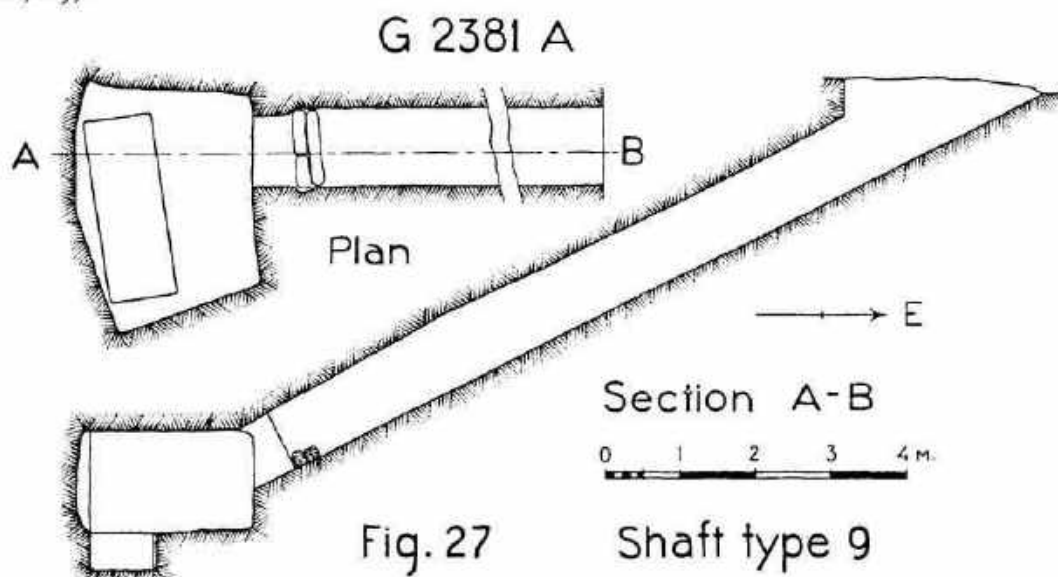


Figure 31 Variation b
Chamber on W

Figure 30 Variation b
Chamber on S

Variation b: the long axis of the chamber is at right angles to the adjoining side of the shaft; when the chamber is on south or north of the shaft, its long axis is N-S; when the chamber is east or west of the shaft, its long axis is E-W (Figs. 30, 31).

These two letters, 'a' and 'b', mean the same thing wherever used with types 1, 2, 3, 4, 5, 6, and 8. The letters 'c', 'd', &c., mark other variations which are not common to the types 1-6 and 8.

Variation c means—

- for types 1-3, a square or nearly square chamber.
- for type 5, a smaller chamber like type 5 a, with area less than 2.0 sq. m.
- for type 6, a recess chamber.

Variation d is used only for types 5 and 6 and means—

- for type 5, a small nearly square chamber about the same area as the shaft.
- for type 6, a recess chamber so small that the burial lies partly in the shaft protected by a constructed extension of the chamber.

Fourteen of the fifteen initial mastabas of the three nucleus cemeteries of the Western Field all present variations of type 1. The following twenty-five mastabas present types 1-3. The twin-mastabas

of the nucleus cemetery in the Eastern Field present type 3, and the later mastabas of Cem. G 4000 types 3-6. Dated mastabas of Dyn. IV present types 1-6, while those of Dyn. V vary from type 3 to type 6. It is clear that the types 1-6 were introduced in this order at Giza. The use of types 7 and 8 increases in the latest mastabas in the cemetery.

(1) *The Variations of Shaft Type 1*

As explained above, the old variations in the relation of the chamber to the shaft prevail throughout the examples of type 1, and are marked by the letters: 'a', for the E-W chamber on the south; 'b' for

Section through doorway
of G 1227 A, of type 1ar
→ N

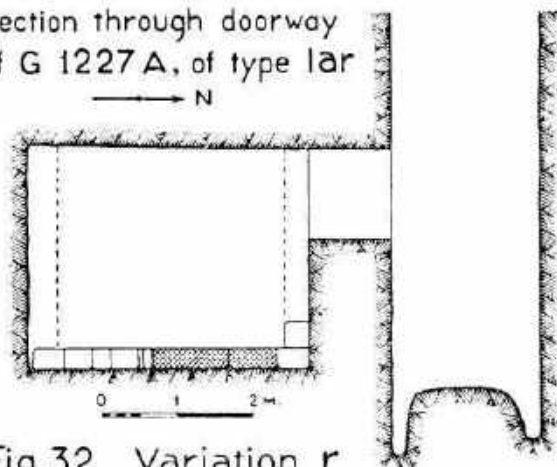


Fig. 32 Variation r

Section through doorway
of G 1223 A, of type 1bm
→ N

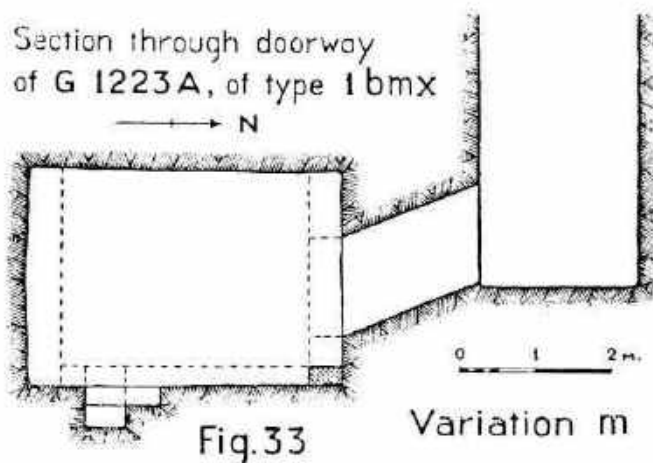


Fig. 33

Variation m

Section through doorway
of G 2100 A, of type 1cm
→ N

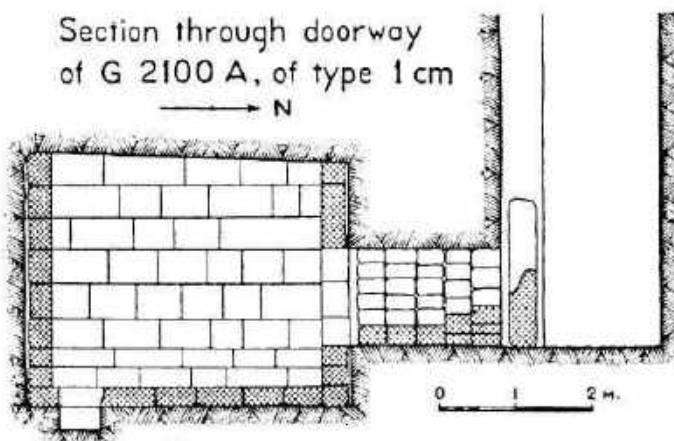


Fig. 34

Variation m

Section through doorway of
G 1209 A of type 1cf
→ N

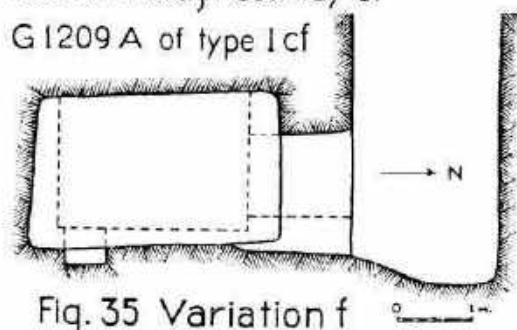


Fig. 35 Variation f

the N-S chamber on the south; and 'c' for the square or nearly square chamber on the south. The other variations of this type concern the connexion between the shaft and the chamber. The passage is always long, from 1 to over 2 m. in length, and it opens in the north wall of the chamber flush with the east wall or near it. The shaft itself is a 2-m. opening partly in rock and partly cased through the mastaba with masonry like that of the retaining wall of the mastaba. The opening of the passage in the shaft is less than the 2-m. side of the shaft in which it opens. By this fact a 'false door-jamb' is formed on the western side of the passage between the shaft and the chamber. This characteristic is marked in types 4 and 5 by the figure (1) in parentheses. In a few cases a shallow 'false jamb' is formed also on the eastern side of the passage, and this feature when it occurs in types 4 and 5 is marked by (4). But for type 1, these rare forms are very minor variations of the main form. More characteristic is the height of the opening of the passage in the north wall of the chamber. This height I mark by letters as follows:

r: opening at roof-level with a deep drop from floor of passage to floor of chamber (Fig. 32).

m: opening at or near middle of chamber wall, with rise to roof and a drop to floor of chamber (Figs. 33, 34).

l: opening low down in north wall with a small step down from floor of passage to floor of chamber, and a high rise to roof of chamber (Fig. 36).

f.: opening at floor-level of chamber with north wall extending upwards above opening (Fig. 35).

In addition to these variations the passage may be horizontal from shaft to chamber or it may slope

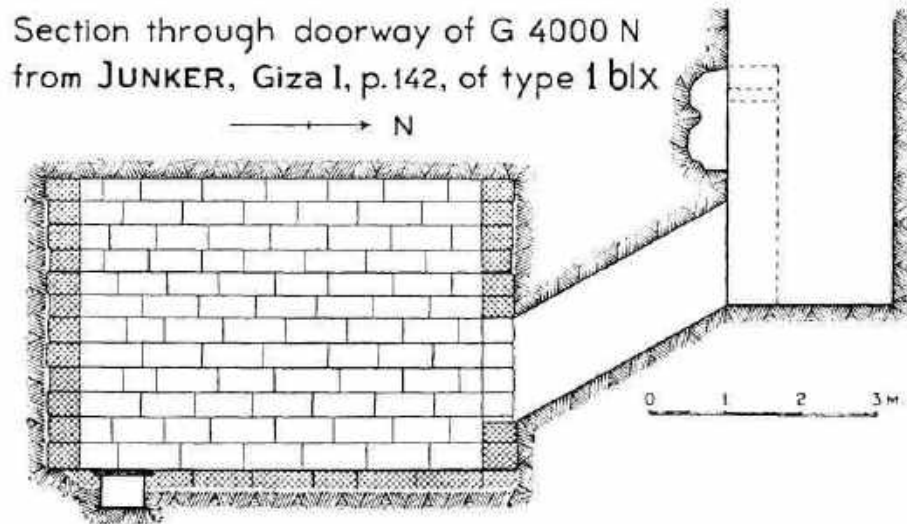
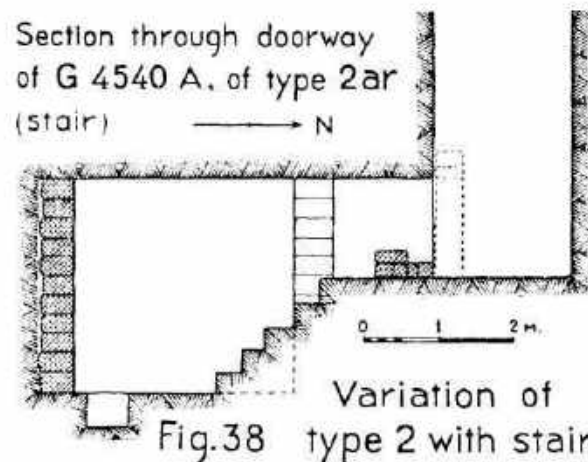
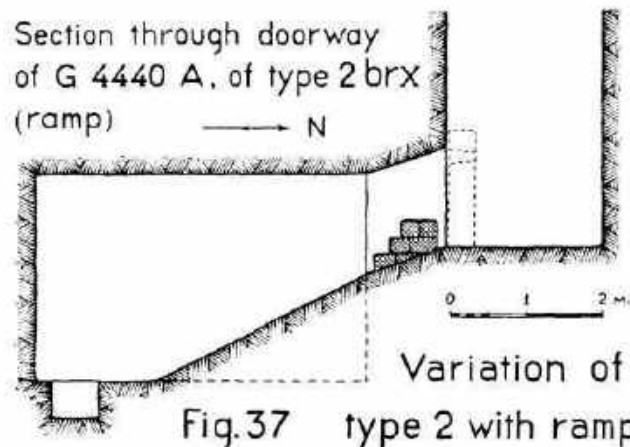


Fig. 36



downwards. The floor of the doorway on the shaft side may be at the level of the bottom of the shaft or above it. When the passage is horizontal the type is designated as 1 ar, 1 am, &c. When the passage slopes down to the opening in the chamber, an 'x' is added to the type designation (type 1 arx, &c.). The designation 'x' combined with any type marks the connecting passage as sloping in some degree (Fig. 36).

(2) Variations of Shaft Type 2

Type 2 is also a lined-chamber type, and resembles type 1 with the passage opening at or near roof-level (2 ar, 2 br, or 2 cr). Its chief feature is a rock-cut ramp or stair inside the chamber connecting the floor of the passage with the floor of the chamber (Figs. 37, 38). This type by its nature does not present all the variations of type 1. Usually the opening is high up, but a few examples occur with the opening in the middle of the north wall of the chamber. Although type 2 usually has a lined chamber, a few cases, being unfinished, were left unlined.

(3) *Variations of Shaft Type 3*

Type 3 represents the unlined form of type 1. The large high unlined chamber on the south of the shaft shows the same variations as type 1 (3 ar, 3 am, 3 al, 3 af, 3 br, &c.), with the sloping passage indicated by 'x' appended to the type designation.

(4) *Variations of Shaft Type 4*

Type 4 is a poorer form of type 3, in which the chief feature is that the height of the chamber is about the same height as the passage. If there is any difference in the two measurements it is equalized by a step down from the floor of the passage to the floor of the chamber. Thus the significance of the height of the opening in the north wall of the chamber automatically ceases. The variations in the

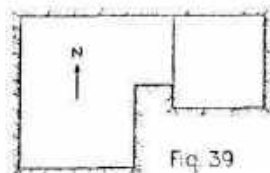


Fig. 39
Variation a(1)

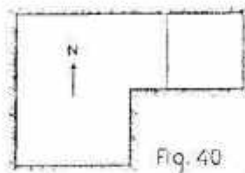


Fig. 40
Variation a(2)

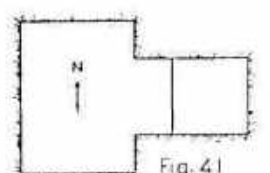


Fig. 41
Variation a(3)

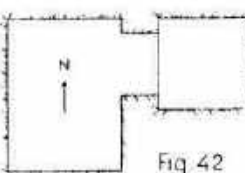


Fig. 42
Variation a(4)



Fig. 43
Variation a(5)

form of the chamber and of the connecting passage present certain modifications of the older forms of types 1-3. These variations persist through type 5, and although all the variations of type 5 do not appear in the examples of type 4, the type designations are outlined for both types (see type 5, below):

Type 4 a (1): with 'false door-jamb', as type 1 a; see Fig. 39.

Type 4 a (2): the doorway being of the same width as the shaft, the passage shows no 'false door-jamb'; see Fig. 40.

Type 4 a (3): the doorway as type 4 a (2) opens in or near the middle of the chamber; see Fig. 41.

Type 4 a (4): with opening near one end of chamber has two 'false door-jamb's, one on each side of the doorway; see Fig. 42.

Type 4 a (5): like 4 a (4), with opening in or near middle of

chamber; see Fig. 43.

Type 4 b: has the same variations as type 4 a.

(5) *Variations of Shaft Type 5*

Types 3 and 4 represent two forms of the same type, one an unlined form of the old type 1 with a high chamber, and the other a cheapened modification of the better type 3. Type 5 represents a further cheapening of both types 3 and 4. The difference is based on the length of the connecting passage and fixed arbitrarily at a passage length of 0.5 m. When the passage is over 0.5 m. long from shaft to chamber, the type is marked as 3 or 4. When the passage is 0.5 m. or less in length, the type is thereby fixed as type 5. The connecting passage of type 5 is sometimes less in length than 0.1 m., and appears to present two narrow door-jamb's one on each side.

The main variations are 'a' and 'b' as for the preceding types. Usually the passage enters the chamber at roof-level as in type 4, but a few examples have the roof of the chamber higher than the roof of the passage and so resemble type 3. The examples present the same variations as type 4, showing a gradual modification of the old form of types 1-3. As in type 4, these variations are marked with figures in parentheses, as follows:

Type 5 a (1): with false door-jamb on one side of doorway; see Fig. 39.

Type 5 a (2): without false door-jamb; passage same width as shaft; see Fig. 40.

Type 5 a (3): without door-jamb; with opening near middle of chamber; see Fig. 41.

Type 5 a (4): with two door-jambs, one on each side of doorway; opening near one end of chamber; see Fig. 42.

Type 5 a (5): with two door-jambs; opening at or near middle of the chamber; see Fig. 43.

Type 5 b (1) to (5): variations corresponding to those marked by a (1) to (5).

The chambers of type 5 are characterized by differences from types 3 and 4 which cheapen the cost of excavation. The connecting passage is short and requires less labour in cutting. The chambers are usually low, much lower than those of type 3, and are generally cut from the roof downwards. But the chambers themselves vary greatly in area from chambers of over 10.0 sq. m. to some less than 1.0 sq. m. in area. The cost of cutting decreased with the size of the chamber, and it has seemed to me important to separate the large chambers of type 5 from the small chambers. I have therefore made a comparison of the sizes of over five hundred chambers and marked an area of 2.0 sq. m. as a practical line between large chambers and small chambers according to the practice of the tomb-makers at Giza. Those chambers above 2.0 sq. m. in area I have marked as large chambers and those of less than 2.0 sq. m. as small chambers. The smaller chambers bear the designation 'c', which in types 1-3 marked the large square chamber. Thus the variations of type are increased by type 5 c as follows:

Type 5 c (1): like type 5 a (1), with floor area of less than 2.0 sq. m.

Type 5 c (2): like 5 a (2); area, less than 2.0 sq. m.

Type 5 c (3): like 5 a (3); area, less than 2.0 sq. m.

Type 5 c (4): like 5 a (4); area, less than 2.0 sq. m.

Type 5 c (5): like 5 a (5); area, less than 2.0 sq. m.

By the introduction of type 5 c, the large and the small chambers of type 5 are made visible at the first glance by the type designation.

Finally, a number of examples of type 5 represent a small squarish variation in which the area of the chamber was about the same as that of the shaft. As these seem to be very late in date and perhaps derived from the form of some of the late-built shafts and chambers of type 8, I have deemed it desirable to mark these examples as type 5 d. The examples fall into two chief variations:

Type 5 d (1): with 'false door-jamb' on one side of doorway resembling in effect type 5 a (1).

Type 5 d (2): with door-jamb on each side of doorway; resembling type 5 c (5).

(6) *The Variations of Shaft Type 6*

Shaft type 6 has no connecting passage or door-jambs. The chamber opens directly into the shaft. The type is most numerous in Dyns. V-VI, and this fact might be taken as evidence that type 6 was a late type developed from type 5. But in many of the smaller stairway tombs of Dyn. III the chamber opened directly into the end of the stairway. Furthermore, many shafts of the reign of Sneferuw have no door-jambs or connecting passage. Thus it must be admitted that type 6 is an old form, and as a matter of fact one example at least occurs in the annex to mastaba G 1233 of the nucleus cemetery G 1200, and is clearly not later than the reign of Chephren. Type 6 was not used generally for large shafts with large chambers until Dyn. V. The increasing poverty of the community using the Giza Necropolis in Dyns. V-VI is emphasized by the frequent use of the type 6 in the medium-sized and small burial-chambers of that period. The majority of the chambers have an area less than 2 sq. m., and a large number have areas less than 1 sq. m. The chambers with larger areas present the two variations 'a' and 'b' used for types 1-5. The 'a' variation, with chamber parallel to the adjoining side of the shaft, never presents the minor variations numbered a (1) to a (5) in the earlier types.

Nevertheless, it has a form which was obviously derived from type 5 a (2) by the omission of the door-jambs and another variation corresponding to type 5 a (3) with opening in the middle of the chamber. These two variations are therefore used for type 6 a, as follows:

Type 6 a (2): with long chamber parallel to the adjoining side of the shaft; opening flush with one end of the chamber (usually the east or north end) (Fig. 44).

Type 6 a (3): long chamber parallel to adjoining side of shaft; opening in or near middle of chamber (not flush with end) (Fig. 45).

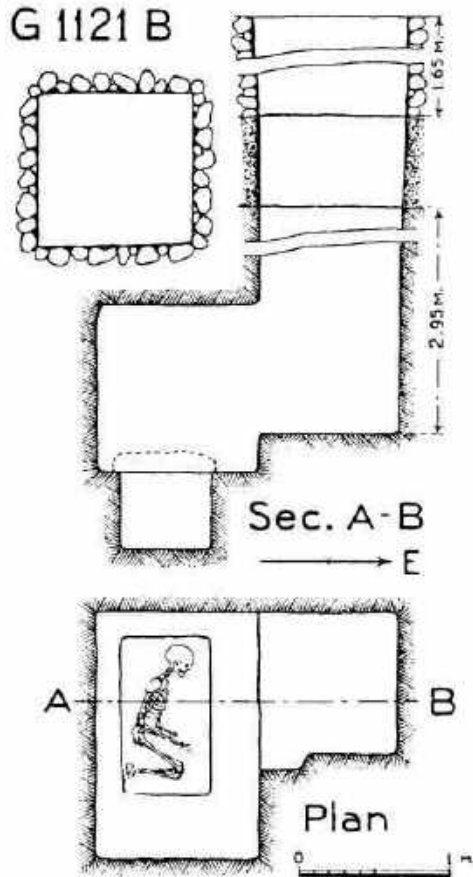


Fig. 44 Shaft type 6a(2)

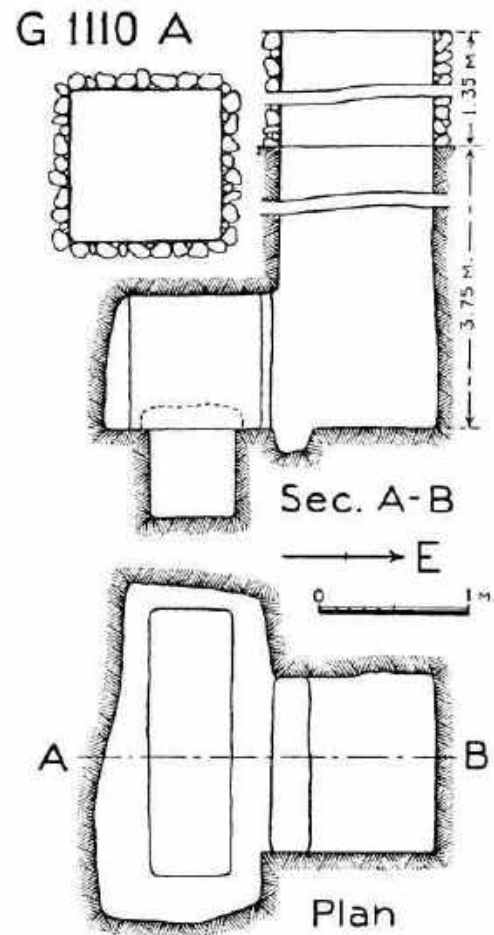


Fig. 45 Shaft type 6a(3)

The variation 'b', by the omission of the passage or jambs, loses all the distinguishing marks of the subdivisions of this letter in the old types, and its new characteristics are marked as follows:

Type 6 b (1): the long chamber runs out corridor-like from the side of shaft, with its long walls parallel or contracting slightly inwards (Fig. 46).

Type 6 b (2): the long chamber has a very characteristic widening towards the inward end which is 'fan-shaped' in appearance; the 'fan-shaped' chamber appears in sporadic examples in type 5 b, but becomes marked in frequency in type 6 b (Fig. 47).

Type 6 b (3): has a chamber of irregular form.

Type 6 b degenerates into a short recess chamber often nearly square in form. For this I have taken the variation letter 'c' (cf. type 1):

Type 6 c (1): recess chamber with parallel sides (Fig. 48).

Type 6 c (2): 'fan-shaped' recess chamber (Fig. 49).

Type 6 c (3): irregularly cut chamber (often unfinished).

The recess chamber (variation 'c') takes on in some cases so shallow a form that the burial (csk or tcsk) cannot be contained within the chamber. The part of the burial in the shaft is protected by an extension constructed of c.b. or rough masonry and roofed with leaning slabs or less often with horizontal slabs:

Type 6 d: recess chambers of meagre depth with body partly in recess and partly in shaft; protected by built extension in shaft; when found open and empty, recesses of depth less than 0.4 m. are reckoned as of type 6 d (Fig. 50).

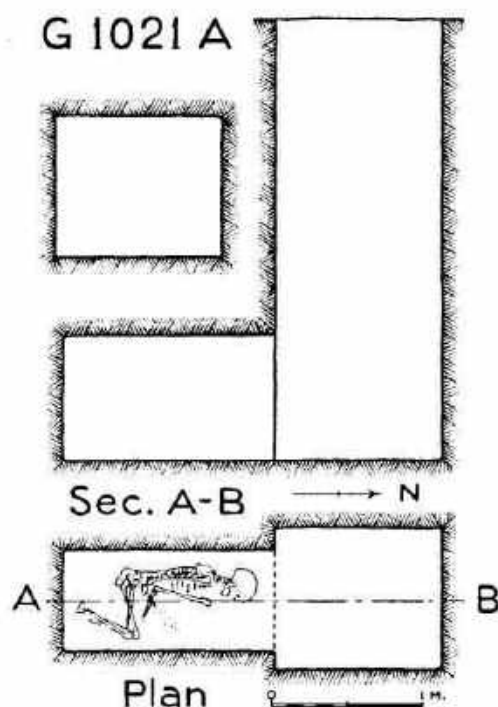


Fig. 46 Shaft type 6b(1)

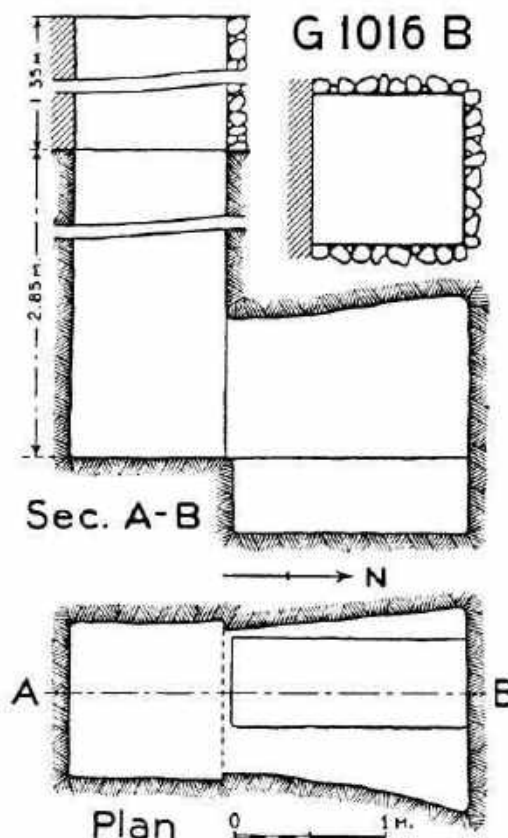


Fig. 47 Shaft type 6b(2)

(7) Variations of Type 7

Shaft type 7 is an open-pit shaft with the burial in the bottom of the shaft or in a chamber constructed in the shaft. In a few cases a chamber is sunk in the rock, but in most cases the chamber is built of rubble, masonry, or c.b.

The variations of type 7 are based on the position and roofing of the chamber, as follows:

Type 7 a: chamber in middle of shaft:

- 7 a (1): with flat roof of stone slabs bound with mud or gypsum plaster (Fig. 51 a).
- 7 a (2): with chamber sunk in rock; flat roof of slabs bound with mud or plaster (Fig. 51 b).
- 7 a (3): like 7 a (1) but with roof of corbelled slabs (Fig. 52).
- 7 a (4): like 7 a (1) but with c.b. pent roof or rudely vaulted roof, plastered with mud.
- 7 a (5): like 7 a (1) but roofed with leaning-course c.b. vault.

Type 7 b: with chamber on east or west side of shaft, formed by one wall built of rubble, masonry, or c.b.:

- 7 b (1): roofed with flat slabs, wedged against side of shaft, bound with mud or plaster (Fig. 53).

7 b (2): as 7 b (1) but with roof of leaning slabs resting against side of shaft (Fig. 54).

7 b (3): with rubble and mud roof of obscure construction.

7 b (4): with chamber on side, but without the roof being preserved; sometimes sunk in rock.

Type 7 c: open-pit grave with body, sometimes in a wooden box, covered with filling of shaft; no subdivisions.

Type 7 d: designation not assigned.

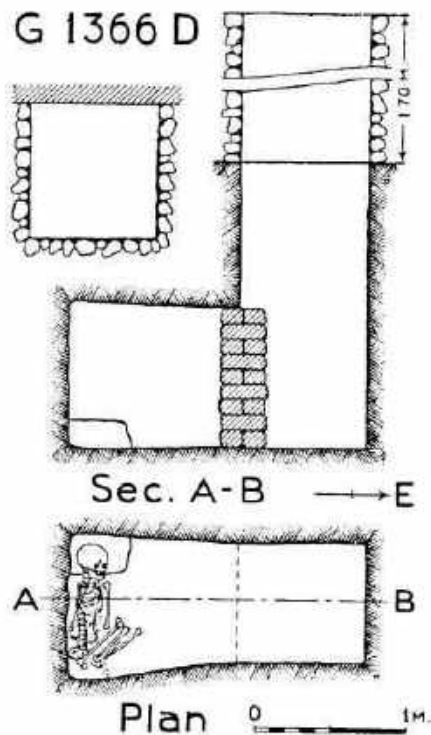


Fig. 48 Shaft type 6c(1)

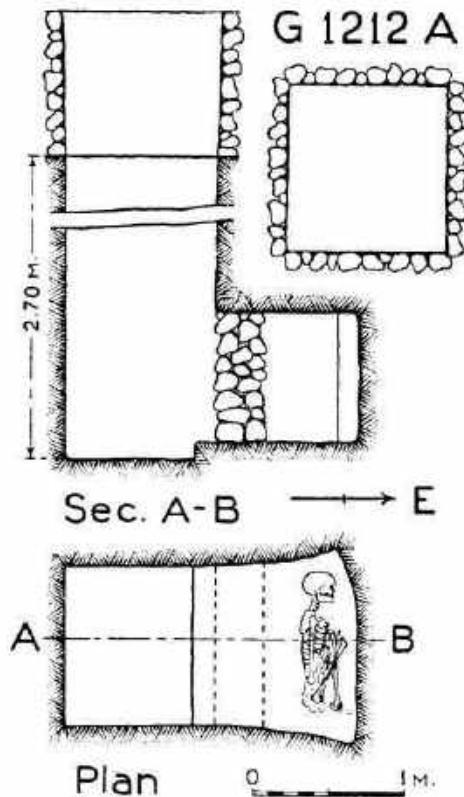


Fig. 49 Shaft type 6c(2)

Type 7 e: smaller shaft and chamber built in open shaft (see *Naga-ed-Dér*, III, p. 22).

Type 7 x: empty open shaft with no chamber preserved, but possibly originally of type 7 a-e.

The shafts of type 7 become frequent in the subsidiary shafts of Dyn. V, and increase in frequency in the small mastabas of Dyn. VI.

(8) *The Variations of Shaft Type 8*

The shaft type 8 presents a form in which the shaft and the chamber were constructed either in the filling of a mastaba or intruded in the sand-filled corridors and chapels of the older cemetery. The chamber was constructed of masonry, c.b., or rubble, and roofed with stone slabs often taken from older mastabas (in particular monolithic stelae). The shaft was also built of the same materials but more frequently of masonry.

The walls of the older constructions in which these built shafts were intruded were utilized to save cost. The variations of type 8 repeat the variations 'a' and 'b' of the rock-cut chambers and are as follows:

Type 8 a: with chamber parallel to the adjoining side of the shaft as type 5 a; variations a (1) to a (5) as 5 a (1) to 5 a (5) (Figs. 55, 56).

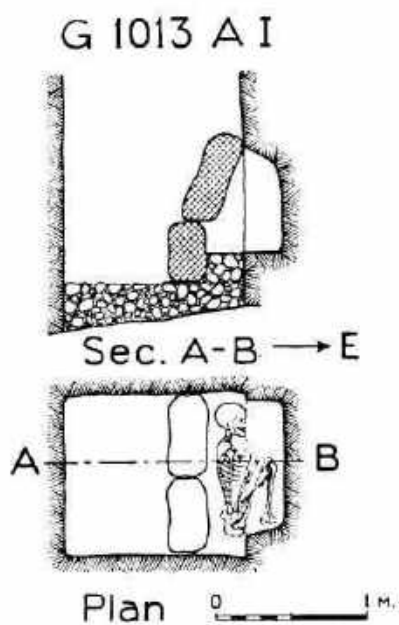


Fig.50 Shaft type 6d.

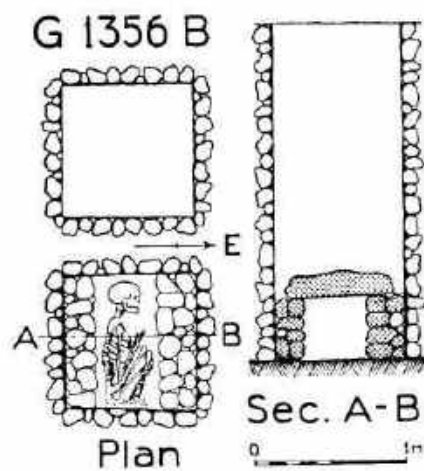


Fig.51a Shaft type 7a(1)

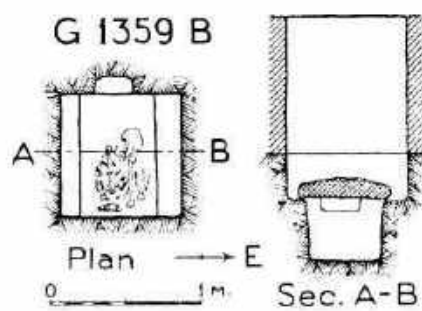


Fig.51b Shaft type 7a(2)

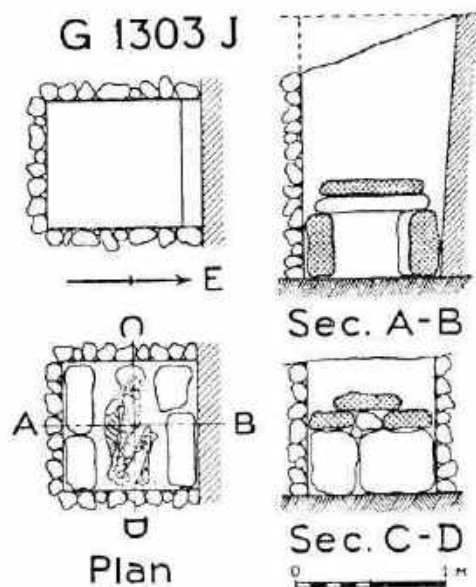


Fig.52 Shaft type 7a(3)

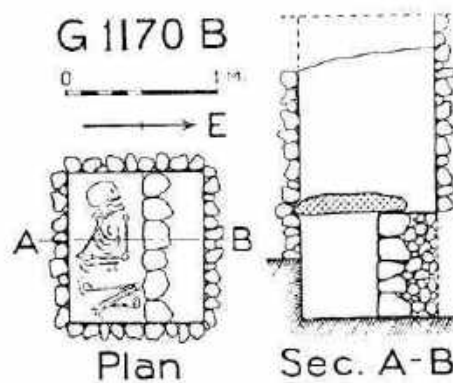


Fig.53 Shaft type 7b(1)

Type 8 b: with chamber at right angles to adjoining side of shaft:

8 b (1): with one door-jamb as 5 b (1) (Fig. 57).

8 b (2): without door-jamb as type 6 b (1); the most numerous class (Fig. 58).

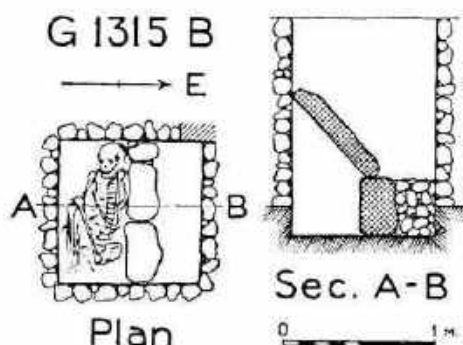


Fig. 54 Shaft type 7 b(2)

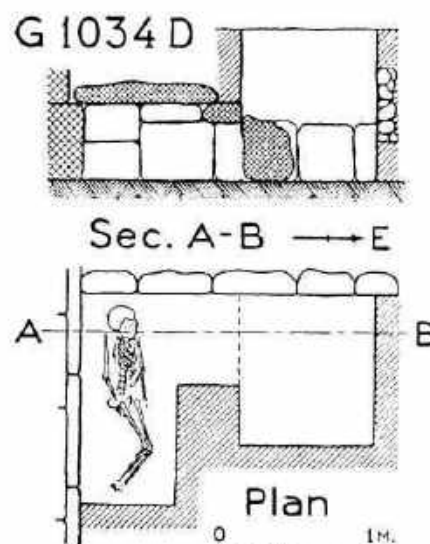


Fig. 55 Shaft type 8 a(1)

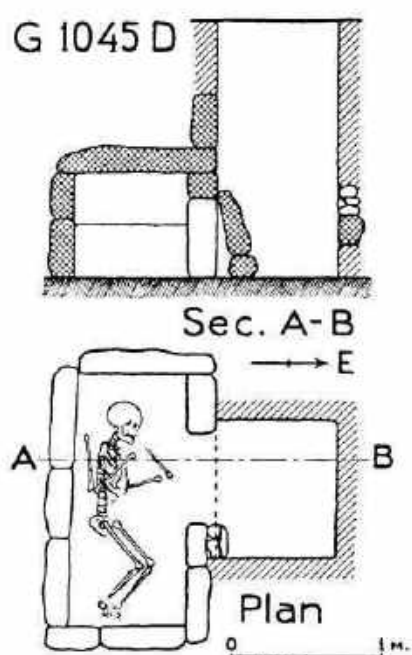


Fig. 56 Shaft type 8 a(5)

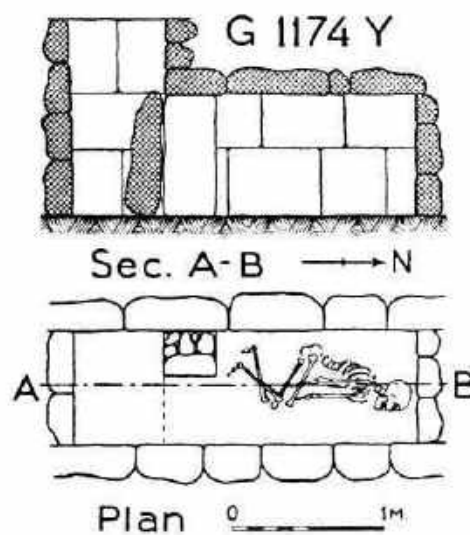


Fig. 57 Shaft type 8 b(1)

8 b (3): like 8 b (1) but roofed with leaning-course c.b. vault.

8 b (4): chamber opening in corner of shaft.

Type 8 c: imitation of type 6 c:

8 c (1): like 6 c (1); 8 c (2) like 6 c (2).

Type 8 d: imitation of 6 d.

Type 8 e: chamber as 6 c, sunk in rock and roofed with slabs.

Type 8 f: abnormal variation of type 8 b in which the whole of the shaft was built over one end of the roof of the built chamber.

Type 8 is the predominating type of the intrusive shafts of the latest period, which were made after the sanding-up of the cemeteries.

(9) *Variations of Shaft Type 9*

Shaft type 9 presents a development which was frequently used in the large mastabas of Dyns. V and VI. A large N-S chamber was approached by a sloping passage cut in the rock descending from the north or east, usually from outside the exterior wall of the mastaba, but occasionally from the floor of the chapel. In many cases a built passage was constructed in the rock-cut passage and roofed with slabs with the empty space above the roof packed with rubble and mud. The passage was blocked with plug-stones like the pyramid passages of Dyns. IV-VI. The type appears to have been derived from the pyramid type of passage rather than the older type of sloping-passage tomb. The variations are as follows:

Type 9 a: N-S chamber, entered from the east near the north end of the east wall of the chamber:

9 a (1): with rock-cut passage.

9 a (2): with built passage in the rock-cut passage.

Type 9 b: with N-S chamber entered by sloping passage from the north or south; entering the chamber through the east side of the north or south wall of the chamber:

9 b (1): with plain rock-cut passage.

9 b (2): with built passage in the rock-cut passage.

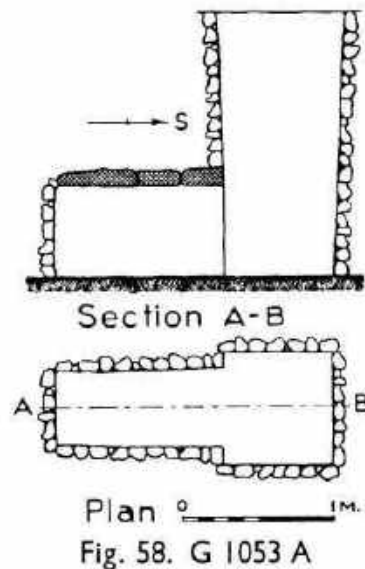


Fig. 58. G 1053 A

(10) *Summary of the Square Shafts with Rock-cut Chambers: Types 1-6*

The six types of square shafts with rock-cut chambers include all the important burial-places in the Giza Necropolis except those of the later type 9. The six types fall into two groups, types 1-5 with connecting passage or door-jambs between shaft and chamber, and type 6, with chamber opening directly into the shaft. Both these features are to be noted in the older burial-places of Dyn. III and the reign of Sneferuw. The direct opening was even in the older burial-places a cheaper type. At Giza, however, the development begins afresh with the lined chamber of type 1, used in fourteen of the fifteen initial mastabas of the Cheops cemetery. The similar type 2 with the ramp or stair inside the chamber appears later than type 1 in Cem. G 4000. Type 3 appears first in the chambers of the eastern nucleus cemetery, dated by me to the end of the reign of Cheops. It also appears in Cem. G 4000 later than type 2. In the annexes to G 1223 and G 1225, type 3 appears subsidiary to chambers of type 1. In fact, type 3 is the same as an unlined type 1. Wherever chambers of types 3 and 4 come into proximity, the examples of type 4 are later by position than those of type 3, and it is obvious that type 4 is only a cheaper form of type 3.

The mastabas of the four nucleus cemeteries, G 1200, G 2100, G 4000, and G 7000, were originally all one-shaft mastabas with one square 2-m. shaft. These belonged to the most important persons buried in the necropolis, other than the kings themselves and their queens. It was for these great persons that the lined chamber of shaft type 1 was designed, and from that type the other types were developed locally practically independent of the older forms used in previous reigns. As time went on, the size of the square shaft diminished and with every decrease in the size of the shaft the labour of cutting was lessened. The shafts gradually decreased to about 1.0 × 1.0 m. and the vast majority of the

shafts of Dyns. V and VI are of the smaller sizes. Old shafts of the 2-m. size, which were used later in Dyn. V, were often not excavated in rock to the full size but continued downwards of much less size. Again, the depth of the shaft in rock was a weighty factor in the cost of excavation, and in this the tendency favoured more shallow shafts. The increase in the use of the smaller and less elaborate chambers followed the same tendency towards less expensive shafts even for the great men of Dyns. V and VI.

The shafts 4-6 result from the general tendency towards economy in preparation. Aside from this, attention must be directed to the general methods of rock-excitation and the differences in the cost of shafts types 1-3. The method of excavation of rock-shafts is revealed by a large number of examples

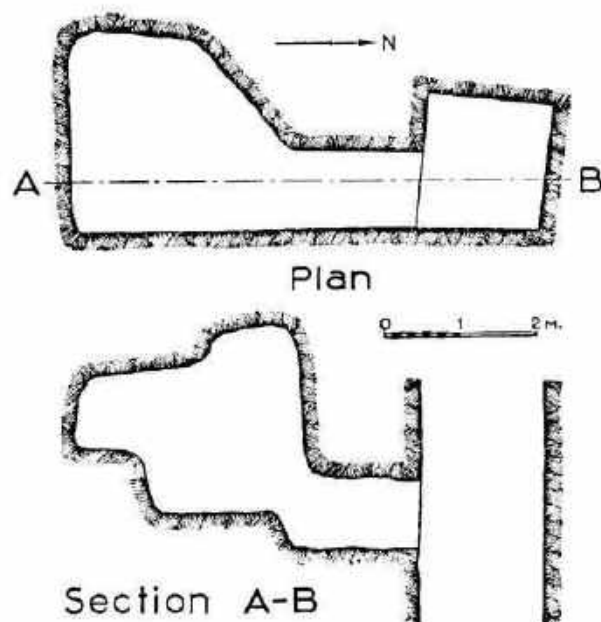


Fig. 59. G 7750 B (I)

which were not completely finished. The outline of the mouth of the shaft was marked out on the surface by a rectangular trench varying in depth from 0.15 to about 0.3 m., cut apparently with the hardened copper chisel. The resulting block of stone was trenched, dividing it into ridges. These ridges were then smashed with heavy hard-stone hammers, of which many were found in the debris. The bottom of the shaft as thus begun was roughly dressed, probably by pounding with hammers, and the trenching operation was continued until the desired depth had been obtained. Finally, the vertical sides of the shaft were dressed more or less flat (according to the size and quality of the shaft). The excavation of the shaft was one of the easier methods of excavation, entirely carried out *with downward blows of chisel and hammer*. The cutting of passage or doorway laterally in one side of the shaft was carried out in a similar manner

by cutting vertical grooves (not so deep as the trenches) and breaking away the intervening ridges, which was no great labour to the Egyptian craftsmen. The position of the chamber with relation to this passage made, on the contrary, a great difference in the cost of cutting chambers of the same size and height. When the passage was designed to enter the chamber at roof-level, the lateral cutting was continued until the roof was brought into existence and then the chamber was excavated downwards from the roof to the floor. This method required again only downward blows of the tools employed, and the trench and hammer operation could be used. When the passage entered the chamber at floor-level and the projected chamber roof was high above the roof of the passage, the labour of cutting was more difficult. The evidence of the process is contained in the unfinished chambers of G 7750 B (see Fig. 59). Owing to the great difficulty of cutting upwards with upward blows of the tools and the continual dribble of dust and spills into the face of the workman, a vertical shaft about a metre square was cut from the roof of the passage upwards to the roof of the chamber. The chamber was then excavated laterally from this vertical cutting. The amount of labour in the upward cutting varied with the height of the opening of the chamber, increasing as the opening decreased in height above the floor of the chamber. The chisel and adze marks on the walls of the chamber show that the dressing of the walls of the chamber was carried out with downward strokes, as was naturally to be expected. In some of the best examples, the walls have been further smoothed down by rubbing, probably with a flat slab, perhaps of harder stone.

The method of cutting chambers is confirmed by several facts. The cheaper types of chambers

(types 4, 5, and 6) were generally cut in laterally with the roof of the passage at the level of the chamber roof, and when the chamber was higher than the passage the difference was equalized by a step from floor of passage to floor of chamber (made by downward excavation). Another bit of confirmatory evidence is given by a few examples, types 1-3, in which the passage was cut in with its roof on the level of the chamber roof, and after the excavation of the chamber had its upper part built in with masonry to create the high chamber form of types 1 af, 1 bf, or similar. A few examples of high chamber types had a 'window', cut laterally from shaft to roof of chamber, which gave access at roof-level and permitted the excavation downwards of the whole chamber.

b. The Occurrence of Stone-lined Chambers at Giza

The stone-lined chamber, the origin of which is so clearly revealed by the Medum tombs, is characteristic of the mastabas which by position and type appear to be the earlier. These include all of the ten mastabas in Cem. G 1200, all of core-type II a. The burial-shafts (one in each mastaba) are: 1 of type 1 ar (G 1227); 2 of type 1 al (G 1201 and G 1207); 1 of type 1 alx (G 1233); 1 of type 1 al (G 1235); 1 of type 1 brx (G 1223); 1 of type 1 bl (G 1225); and 3 of type 1 cl (G 1203, G 1205, G 1209). An examination of the type variations used for the owners as revealed by the slab-stela proves that the type variations, 1 a, 1 b, and 1 c, were not adopted to accord with the sex or rank of the owners. These variations appear to be purely arbitrary. In Cem. G 2100, in which one mastaba is of type II b (G 2130) and all the rest of type II a, five of ten chambers are lined and are:

- 2 of type 1 al (G 2120, 2130).
- 2 of type 1 cm (G 2100, G 2135).
- 1 of type 1 bf (G 2210).

In Cem. G 4000 the chambers of the rows 4-6 and lines 1-7 are lined, with these exceptions: G 4650, 4240, 4740, 4750, and 4760. The mastabas are of core-types II b (5 mastabas), III i (2 mastabas), and IV i (15 mastabas). The shaft types are as follows:

- 4 of type 1 ar; G 4260, 4360, 4150, 4250.
- 1 of type 1 am; G 4460.
- 1 of type 1 al; G 4560.

Total shafts of type 1 a, 6 shafts.

- 1 of type 1 br; G 4160
- 1 of type 1 blx; G 4000 N.
- 3 of type 1 cm; G 4350, 4450, 4550.
- 1 of type 1 cl; G 4660.

Total shafts of type 1, 12 shafts.

- 1 of type 2 ar (stair); G 4540.
- 2 of type 2 br (stair); G 4750, 4640.
- 2 of type 2 brx (ramp); G 4140, 4440.
- 1 of type 2 bm (stair); G 4240.
- 1 of type 2 cr (ramp); G 4340.
- 2 of type 2 cr (stair); G 4740, 4760.

Total shafts of type 2, 9 shafts, of which 4 are unlined (G 4240, 4740, 4750, and 4760).

The sum total of shafts of types 1-2 with lined chambers is seventeen, which are contained in seventeen mastabas. The lined chambers form a nearly solid block in Cem. G 4000. The thirty-two lined

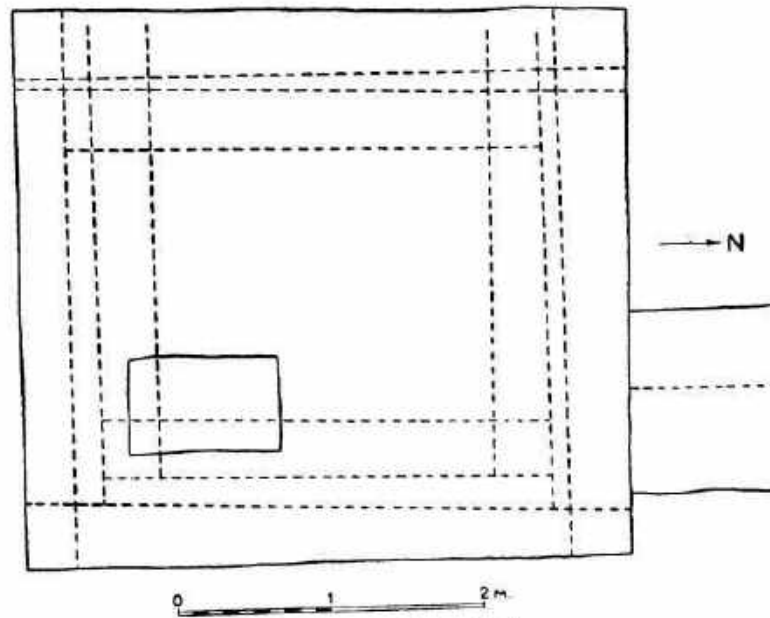


Fig. 60. G 1225 A

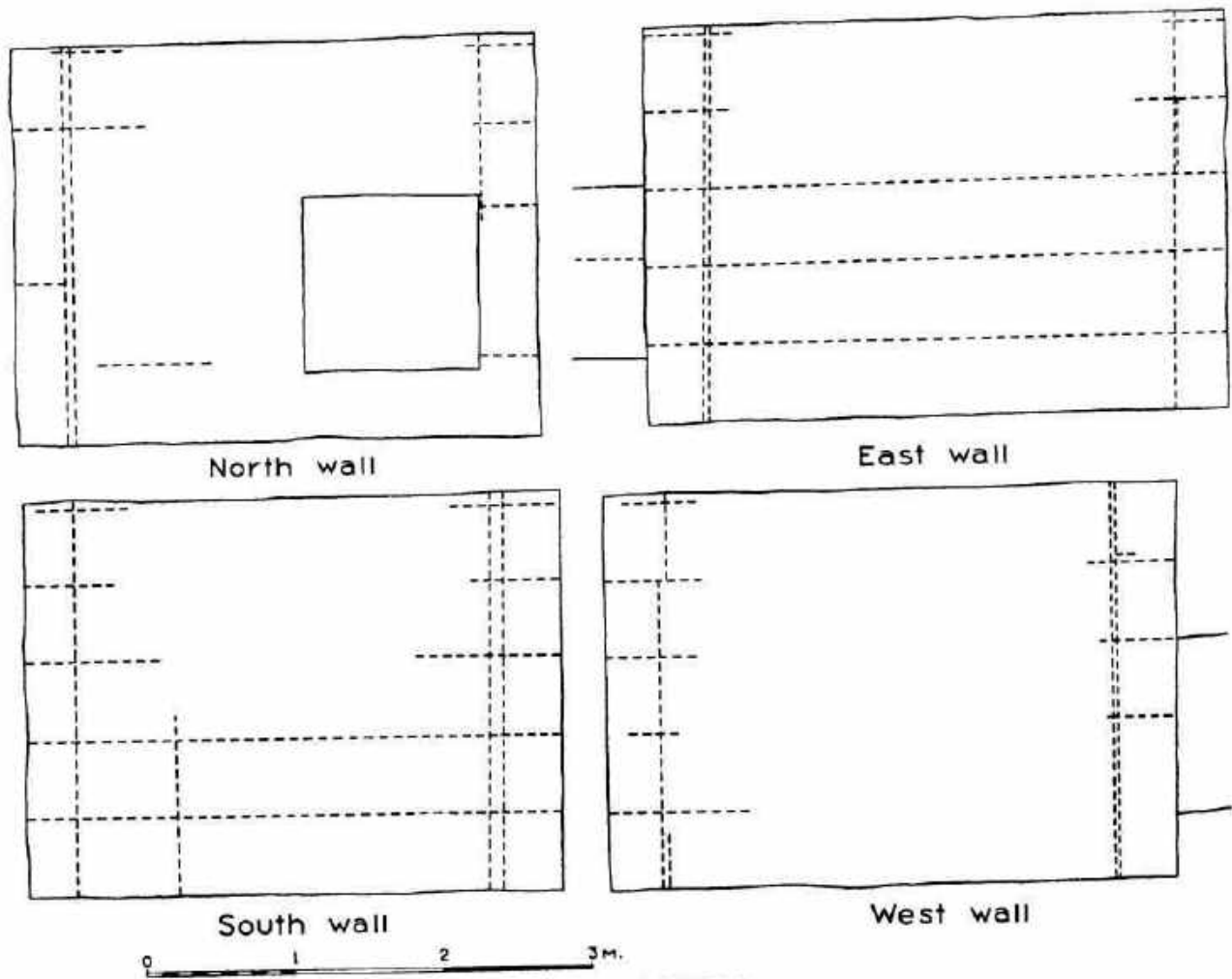


Fig. 61. G 1225 A

chambers of the Western Field include all the early mastabas of that field. They are all one-shaft mastabas, which is another indication of their early date, except G 4000, which belongs to the class of tombs in which the wife, because of her rank, takes a position of unusual prominence. The group of lined chambers presents certain variations of the shaft types which are of considerable interest.

Thus in the Western Field, in the early mastabas, thirty-two chambers of types 1 and 2 were lined and six chambers of type 2 (including G 2000) were designed for linings but left unfinished. Thereafter the lining of chambers ceased to be generally practised at Giza. In the Eastern Field, only one chamber was found with finished lining (G 7510) but without a pavement. Two other chambers had unfinished linings, G 7130 B (south wall of coffin-chamber) and 7430 B (main chamber lined to a certain height). All the other chambers in the Eastern Field as well as all later chambers in the Western Field and G I S were not lined. It is clear that the general use of lined chambers in mastaba-shafts ceased at

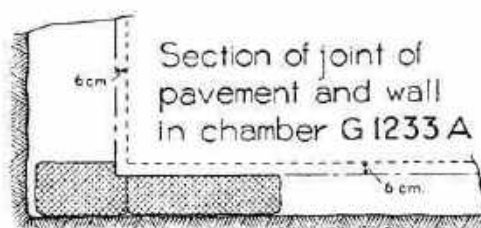


Fig. 62 0 1 m.

Giza about the end of the reign of Cheops, but occurs in isolated examples in the reign of Chephren. At other sites, sporadic examples occur in very large mastabas of Dyns. V-VI.

In comparison with the occurrence of lined chambers in mastaba-shafts at Giza, it is to be remarked that the three small pyramids G I-a, b, and c had burial-chambers lined with white limestone. The small pyramid south of the Second Pyramid had not been lined (see Hölscher, *Chephren*, p. 67), although the burial was dated by a sealing to the reign of Chephren. At the Third Pyramid only G III-b had a lined chamber, while G III-a, the most important of the three pyramids, had a plain rock-cut chamber. The pyramid G III-c had an unfinished chamber. The royal pyramids of Dyns. V-VI had generally a built or a lined burial-chamber.

The lining of the chambers consists of smoothly dressed white limestone with fine joints both horizontally and vertically and with courses carefully bonded. The entrance passage was usually uncased, but entered the lining of the chamber in a finely dressed opening. This opening was roofed with a single long slab, part of the lining of the north wall. The floor was paved with fine white blocks also, a feature that was only omitted in some of the later examples. The canopic pit in the SE corner was cut through the pavement and usually entered the rock below the pavement. The construction of this lining was marked out by an arrangement of red lines on the roof and the walls of the chamber (see Figs. 60, 61). The construction of the lining began with the lining of the walls on all four sides. Each block was dressed on the bottom and two ends for setting. The top of the block was dressed flat, apparently after the setting of the whole course to which it belonged. When the wall was completed the whole surface appeared only roughly dressed. At this point the pavement was laid, being also finely fitted to the lowest course of the side walls and internally. After the construction of the whole the final dressing took place and, in this process, the dressed wall often fell a centimetre or two inside the face of the lowest course against which the pavement was built. The pavement was also dressed down so that its upper surface fell below the top of the first course of the side walls (see Fig. 62).

c. Distribution of the Shaft Types in the Nucleus Cemeteries

(1) *The Shafts in the Fifteen Initial Mastabas of the Nucleus Cemeteries*

The distribution of the shaft types through the mastabas marked as the fifteen initial cores in the Western Field is as follows:

Type 1:

With entry at roof-level:

- (1) G 4160: type 1 br; area, 12.16 sq. m.; 32.59 cu. m.
- (2) G 4150: type 1 ar; area, 10.23 sq. m.; 25.06 cu. m.
- (3) G 4260: type 1 ar; area, 10.87 sq. m.; 30.11 cu. m.
- (4) G 4250: type 1 ar; area, 10.46 sq. m.; 25.52 cu. m.

Total with high entry of type 1, 4 shafts.

With entry low down in the wall of chamber:

- (1) G 4000 N: type 1 blx; 23.32 sq. m.; 89.78 cu. m.

South shaft intended to be of the same types but left unfinished in the form of type 3 brx.

- (2) G 2100 A: type 1 cm; area, 12.07 sq. m.; 34.4 cu. m.

With other shafts, of which B is of type 3 bf (area, 12.91 sq. m.), and C is of type 3 cr (area, 9.0 sq. m.).

- (3) G 2120: type 1 al; area, 11.16 sq. m.; 30.13 cu. m.
- (4) G 2130: type 1 cl; area, 9.61 sq. m.; 21.62 cu. m.
- (5) G 1201: type 1 al; area, 13.6 sq. m.; 46.51 cu. m.
- (6) G 1203: type 1 cl; area, 9.3 sq. m.; 30.69 cu. m.
- (7) G 1205: type 1 cl; area, 8.99 sq. m.; 21.47 cu. m.
- (8) G 1225: type 1 bl; area, 8.96 sq. m.; 24.19 cu. m.
- (9) G 1223: type 1 bmx; area, 15.35 sq. m.; 43.59 cu. m.
- (10) G 2210: type 1 bl; area, 16.5 sq. m.; 54.45 cu. m.

Total with low entry, 10 shafts.

Total number of shafts of type 1 among the 15 initial mastabas, 14. Of these 14 shafts 4 have entry at roof-level, all in Cem. G 4000. Ten have a low entry with a step down from floor of passage to floor of chamber, 1 in Cem. G 4000, 4 in Cem. G 2100, and 5 in Cem. G 1200.

Two of the passages are sloping, G 4000 N and G 1223 A, while all the rest (12 shafts) have horizontal passages. All 14 chambers are lined and all but 1 paved with fine white limestone. It is to be noted that the chambers of the block of 4 normal mastabas in Cem. G 4000 have a general resemblance and differ in their high entry from the chambers of Cem. G 1200 and G 2100. In size, the largest chamber is in G 4000 N (89.78 cu. m.). The chambers in order of cubic capacity are:

- (1) G 4000 N: type 1 blx; area, 23.32 sq. m.; 89.78 cu. m.
- (2) G 2210: type 1 bf; area, 16.5 sq. m.; 54.45 cu. m.
- (3) G 1201: type 1 al; area, 13.6 sq. m.; 46.51 cu. m.
- (4) G 2100 A: type 1 cm; area, 12.07 sq. m.; 34.4 cu. m.
- (5) G 4160: type 1 br; area, 12.16 sq. m.; 32.59 cu. m.
- (6) G 1203: type 1 cl; area, 9.3 sq. m.; 30.69 cu. m.
- (7) G 2120: type 1 al; area, 11.16 sq. m.; 30.13 cu. m.
- (8) G 4260: type 1 ar; area, 10.87 sq. m.; 30.11 cu. m.

- (9) G 4250: type 1 ar; area, 10.46 sq. m.; 25.52 cu. m.
 (10) G 4150: type 1 ar; area, 10.23 sq. m.; 25.06 cu. m.
 (11) G 1223: type 1 bmx; area, 9.53 sq. m.; 24.8 cu. m.
 (12) G 1225: type 1 bl; area, 8.96 sq. m.; 24.19 cu. m.
 (13) G 2130: type 1 cl; area, 9.61 sq. m.; 21.62 cu. m.
 (14) G 1205: type 1 cl; area, 8.99 sq. m.; 21.47 cu. m.

The cost of a chamber is to be measured not only by the area but more exactly by the area multiplied by the height. The chambers of the above list are thus arranged in the order of their cubic capacity. The largest of all chambers is that of Prince Hemyuwnuw (G 4000 N). The third largest is that of Prince Wepemnefret (G 1201). Both these chambers are in mastabas-cores of more than normal size. The fourth largest chamber is that of the father or the mother of Prince Mer-ib, and this person was also a prince or a princess. The owner of the fifth chamber has not been identified. Belonging to royal children are Nos. 10, 11, 12, and 13. The *rh nswt* title occurs in association with No. 14. The distribution by cemeteries is as follows:

- Cem. G 4000: Nos. 1, 5, 8, 9, 10; total 5.
 Cem. G 1200: Nos. 3, 6, 11, 12, 14; total 5.
 Cem. G 2100: Nos. 2, 4, 7, 13; total 4.

(2) *The Distribution of Shaft Types in Cem. G 4000*

The total number of mastabas in Cems. G 1200 and G 2100 after the initial mastabas of those cemeteries is only eleven. Cem. G 4000, however, presents seventeen mastabas in succession to the five initial mastabas and twenty mastabas later than those seventeen succeeding mastabas. This number makes the distribution of the type forms of shafts in this cemetery of such importance that I deal with it before the other two cemeteries. I take the first twenty-two (including the five initial cores) in the chronological order of the cores as laid down in a preceding section:

(a) The five initial mastabas:

	Core type	Slab- stelae	Shaft type	Area sq. m.	Capacity cu. m.	Remarks
(1) G 4000 . .	II b	..	1 blx	23.32	89.78	south shaft of same type unfinished
(2) G 4150 . .	II b	in place	1 ar	10.23	25.06	
(3) G 4160 . .	II b	no name	1 br	12.16	32.59	
(4) G 4250 . .	II b	no name	1 ar	10.46	25.52	
(5) G 4260 . .	II b	no name	1 ar	10.87	30.11	sole

(b) The eight succeeding mastabas in rows 5 and 6, lines 3-6:

(6) G 4360 . .	IV i	no name	1 ar	7.0	15.4	
(7) G 4460 . .	IV i	no name	1 am	10.39	30.13	
(8) G 4560 . .	IV i	no name	1 al	10.65	27.48	
(9) G 4660 . .	IV i	..	1 cl	13.32	37.28	
(10) G 4350 . .	III i	no name	1 cm	11.39	29.04	
(11) G 4450 . .	IV i	no name	1 cm	11.73	29.15	
(12) G 4550 . .	IV i	..	1 cm	10.92	29.36	
(13) G 4650 . .	IV i	..	3 cm	15.8	48.19	

(c) The following nine mastabas, row 4, lines 1-6, and line 7 (rows 4-6):

	Core type	Slab- stelae	Shaft type	Area sq. m.	Capacity cu. m.	Remarks
(14) G 4140 . .	III i	princess	2 brx (ramp)	16.45	46.88	lined and paved
(15) G 4240 . .	IV i	..	2 bm (stair)	20.01	53.42	unlined
(16) G 4340 . .	IV i	no name	2 cr (ramp)	10.98	28.57	lined, not paved
(17) G 4440 . .	IV i	..	2 brx (ramp)	17.62	47.75	unlined
(18) G 4540 . .	IV i	..	2 ar (stair)	9.84	27.55	lined, not paved
(19) G 4640 . .	IV i	..	2 br (stair)	9.22	23.6	lined, not paved
(20) G 4740 . .	IV i	..	2 cr (stair)	16.66	42.64	unlined
(21) G 4750 . .	IV i	..	2 br (stair)	21.65	51.83	unlined coffin-recess.
(22) G 4760 . .	IV i	name lost	2 cr (stair)	16.4	50.84	unlined

(d) The nine mastabas of row 3 and line 8.

The cores of row 3 (lines 3-8) were by position in immediate succession to the twenty-two mastabas already listed above. Their chambers present a decided degeneration of the earlier mastabas in this cemetery, as follows:

(23) G 4330 . .	IV i	..	3 bl	7.95	18.28	
(24) G 4430 . .	IV i	..	5 a (2)	3.64	5.82	
(25) G 4530 . .	IV i	..	4 a (2)	3.12	5.55	
(26) G 4630 . .	IV i	..	3 am	12.51	26.64	
(27) G 4730 . .	IV i	..	7 x	..	..	unused shaft
(28) G 4830 . .	IV i	..	6 b (2)	2.52	2.39	
(29) G 4840 . .	IV i	..	4 b (2)	9.44	28.32	
(30) G 4850 . .	IV i	..	4 a (2)	2.48	2.6	
(31) G 4860 . .	II a	name lost	4 a (2) W	7.16	13.58	north shaft
			6 b (4)	2.86	..	south shaft

(e) The mastabas of row 2.

As I reconstruct the history of this cemetery, row 2 was added at this point.

(32) G 4320 . .	IV i	..	6 a (2)	1.6	1.78	upper chamber
		..	6 a (2)	1.6	1.6	lower chamber
(33) G 4420 . .	IV i	..	5 b (2)	2.2	2.75	
(34) G 4520 . .	IV i	..	6 d	0.11	0.09	upper chamber
			5 b (1)	4.65	7.44	middle chamber
			5 a (1)	6.21	8.69	lower chamber
(35) G 4620 . .	IV i	..	4 b (1)	8.25	14.33	
(36) G 4720 . .	IV i	..	4 b (1)	4.0	6.2	
(37) G 4820 . .	IV i	..	6 b (irregular)	2.94	3.82	

(f) The five mastabas in row 1.

Row 1 appears to be the last and to have only five mastabas. Of these the second, G 4410, was reconstructed later and G 5810 was never built.

(38) G 4310 . .	IV i	..	6 b (1)	1.9	1.99	upper chamber
			6 b (2)	1.84	1.84	lower chamber

	Core type	Slab- stelae	Shaft type	Area sq. m.	Capacity cu. m.	Remarks
(39) G 4410 . . .	IV i	..	4 b (1)	10.65	20.76	
(40) G 4510 . . .	IV i	..	6 b (1)	4.8	6.96	
(41) G 4610 . . .	IV i	..	4 b (1)	7.25	15.95	
(42) G 4710 . . .	IV i	..	4 a (2) x	11.16	17.85	sole

The general chronological order of these forty-two shafts is quite clear. The first five were among the earliest cores built in the reign of Cheops and were probably all finished and used in that reign or soon after. The next shaft the date of which is fixed approximately is No. 24 (G 4430), the burial in which was made in the reign of Chephren. The chamber was of type 5 a (2). The next chamber which can be dated is No. 34 (G 4520), in which the chief burial was dated to the reign of Weserkaf. The shaft in No. 39 (G 4410) had a burial dated also to the reign of Weserkaf.

The shaft types in this cemetery show clearly that the earliest form of chamber was type 1, always with lined walls and pavement. Type 1 is presented by the five initial mastabas and the eight succeeding mastabas of rows 5 and 6 in lines 3-7, with one exception. The exception is No. 13, the last mastaba in row 5 (G 4650), which, like the others in form, remained unlined (unfinished). Four of the five initial mastabas have the opening at roof-level. The first two chambers in row 6 and the four in row 5 have the opening in the middle of the wall, while the third and fourth (Nos. 8 and 9) in row 6 have the opening low down in the chamber wall. It is to be noted that G 4000 also had the entry low down.

The position of the opening varied at all times in Dyn. IV. Yet it is obvious that the first five chambers with high opening were constructed by the same craftsmen, and the workmanship of the succeeding eight chambers indicated that the whole thirteen may have been by the same group with only a few changes in the personality of individual members.

The workmanship of the next nine mastabas is also very similar to that of the first thirteen, but a new and distinctive feature was introduced which I designate as type 2, the ramp or stair inside the chamber leading from the floor of the passage to the floor of the chamber. All the mastabas in row 4, from G 4140 to G 4740, and the two northern mastabas in line 7 (G 4750 and 4760) are of type 2. These mastabas form a line surrounding the thirteen on the south and the east, and apparently constructed in order from west to east and from there to the north. No other example occurs in the whole Western Field except in the great isolated mastaba G 2000. The group of chambers is obviously later than those of type 1 in Cem. G 4000. They may have been made by the same gang as made the others, but present a development of the forms which they were using. Type 2 was also a lined chamber, but five examples (G 4240, G 4440, G 4740, G 4750, and G 4760) were left unlined, although designed for linings as shown by red construction lines.

The twenty-two mastabas containing the chambers of types 1 and 2, of which sixteen are lined chambers, form a solid block in Cem. G 4000. Their chambers were certainly the first to be used for burials in this cemetery. The size and the quality of the chambers make it extremely probable that all were constructed in the reign of Cheops. This probability is increased by the fact that after the construction of the eight twin-mastabas of the Eastern Field, the favourite sites for members of the royal family were east of the First Pyramid in the reign of Chephren and east of the Second Pyramid in the reign of Mycerinus. After the use of the burial-places in the block of twenty-two, the next mastabas to be used were probably in row 3 and line 8, but the chambers vary greatly in type and size so that the order in which the old 2-m. shafts were provided with burial-chambers is difficult to

determine. The nine shafts presented by row 3 (G 4330-4830, 4840-4860) have chambers of the following types:

- 2 of type 3: G 4330 and 4630.
- 4 of type 4: G 4530, 4840, 4850, and 4860.
- 1 of type 5: G 4430.
- 1 of type 6: G 4830 (also south chamber in 4860).
- 1 unused shaft of type 7 x: G 4730.

The chamber of type 5 in G 4430 contained a sealing of Chephren and any example of type 4, 5, or 6 may be as early as Chephren. The sizes of these chambers vary greatly, as follows:

- (29) G 4840: type 4 b (2); area, 9.44 sq. m.; 28.32 cu. m.
- (26) G 4630: type 3 am; area, 12.51 sq. m.; 26.64 cu. m.
- (23) G 4330: type 3 bl; area, 7.95 sq. m.; 18.28 cu. m.
- (31) G 4860 N: type 4 a (2); area, 7.16 sq. m.; 13.58 cu. m.
- (24) G 4430: type 5 a (2); area, 3.64 sq. m.; 5.82 cu. m.
- (25) G 4530: type 4 a (2); area, 3.12 sq. m.; 5.55 cu. m.
- (30) G 4850: type 4 a (2); area, 2.48 sq. m.; 2.6 cu. m.
- (28) G 4830: type 6 b (2); area, 2.52 sq. m.; 2.39 cu. m.
- (27) G 4730: type 7 x.

Four of these have areas of over 7 sq. m. and are really large chambers. The figures for the first two show sizes comparable with those of the chambers of types 1 and 2, but less than the rock-cut capacity of the lined chambers. G 4840 (type 4 b (2)), with an area of 9.44 sq. m. and cubic capacity of 28.32 cu. m., the largest of the chambers, belonged to the Princess Weneshet. The next in size, the chamber in G 4630, is almost equally large. This chamber and the slightly smaller one in G 4330 are of type 3. G 4330 has an area of 7.95 sq. m. and a cubic capacity of 18.28 cu. m. The fourth in size (G 4860), which has an area of 7.16 sq. m. and a capacity of 13.58 cu. m., belonged to an official who owned a slab-stela. The rest are small chambers in comparison with the first four. Even the chamber of G 4430, which contained a sealing of Chephren, had an area of 3.64 sq. m. (5.82 cu. m.), while one shaft (G 4730) appears never to have been used. The evidence seems to point to the order of the use of the shafts as being first the group G 4330, 4630, 4840, and 4860, second 4430, 4530, and 4850. The rest were probably used later.

The shafts in the cores of rows 1 and 2 were with one notable exception used in Dyn. V. The exception is No. 42, G 4710, used by Sethuw. The old core was converted by a casing into a mastaba of type VI a, with nummulitic casing and chapel of type (3) of mixed masonry. The rock-cut part of the 2-m. shaft contracted to 1.7 m. square at the bottom. The chamber was of type 4 a (2) x with an area of 11.16 sq. m. and a capacity of 17.85 cu. m. It contained a nummulitic limestone coffin with *qrst*(?)-lid and canopic pit partly sunk and partly built in SE corner. The associated facts place this shaft in Dyn. IV.

The rest of the chambers in lines 2 and 1 have the rock-cut part much smaller than the cased 2-m. part and are of the later types 4-6. The chambers are of medium size and small. Two of the burials are dated to the reign of Weserkaf, G 4410 and G 4520. Three of the shafts have more than one burial-chamber in the single shaft, G 4320 (2 chambers), G 4520 (3 chambers), and G 4310 (2 chambers).

The chambers arranged in the order of cubic capacity, counting only the chief chamber in shafts with more than one chamber, are as follows:

- (39) G 4410: type 4 b (1); area, 10.65 sq. m.; 20.76 cu. m.
- (42) G 4710: type 4 a (2) x; area, 11.16 sq. m.; 17.85 cu. m.
- (41) G 4610: type 4 b (1); area, 7.25 sq. m.; 15.95 cu. m.
- (35) G 4620: type 5 b (1); area, 8.25 sq. m.; 14.33 cu. m.
- (34) G 4520: type 5 a (1); area, 6.21 sq. m.; 8.69 cu. m. 3 chambers.
- (40) G 4510: type 6 b (1); area, 4.8 sq. m.; 6.96 cu. m.
- (36) G 4720: type 5 b (1); area, 4.0 sq. m.; 6.2 cu. m.
- (37) G 4820: type 6 b (irreg.); area, 3.0 sq. m.; 3.0 cu. m.
- (33) G 4420: type 5 b (2); area, 2.2 sq. m.; 2.75 cu. m.
- (38) G 4310: type 6 b (2); area, 1.84 sq. m.; 1.84 cu. m. 2 chambers.
- (32) G 4320: type 6 a (2); area, 1.6 sq. m.; 1.6 cu. m. 2 chambers.

Four of these chambers are really large chambers with a cubic capacity of from 14 to 20 cu. m. Of these, three are of type 4, the three largest, and one of type 5. Five have capacities between 2 and 8 cu. m. and represent ordinary 'large tombs' according to the sizes used in the later mastabas of Dyn. V, but these are not large chambers from the point of view of mastabas of the size of these mastabas in Cem. G 4000. Three of these are of type 5 and two of type 6. The remaining two chambers are less than 2 cu. m. in size and are small chambers from any point of view. They are of type 6.

The shafts of the different blocks of mastabas show the following distribution of types:

- (a) Five initial mastabas: shafts of type 1; used in the reign of Cheops.
- (b) Eight succeeding mastabas: types 1 and 3 (one mastaba); used in the reign of Cheops.
- (c) The succeeding nine mastabas: type 2; used after the reign of Cheops.
- (d) The following nine mastabas: types 3, 4, 5, 6, and 7 x; used in the reign of Chephren and later.
- (e) The final eleven mastabas of rows 2 and 1; types 4, 5, 6, one of type 4 used in Dyn. IV, and the rest in Dyn. V.

(3) *The Distribution of the Shaft Types in Cem. G 2100*

The shafts in Cem. G 2100 present a period of usage somewhat similar to those of Cem. G 4000. Four of the five initial mastabas were of type 1, and one of them (G 2130) was certainly used in the reign of Cheops (mud sealing). The types occur as follows:

(a) The five initial mastabas:

	Core type	Slab- stela	Shaft type	Area sq. m.	Capacity cu. m.	Remarks
(1) G 2130 . .	II b	..	1 cl	9.61	21.62	sole
(2) G 2100 A .	II a	recess	1 cm	12.24	36.72	chief
B .	II a		3 bf	12.91	18.62	second shaft
C .	II a		3 cr	9.0	17.1	third
(3) G 2120 . .	II a	Seshat-sekhentyuw	1 al	11.16	30.13	sole
(4) G 2110 . .	II a	..	4 a (2)	13.11	26.87	sole
(5) G 2210 . .	II a	..	1 bl	16.5	54.45	sole

The exact order in which these five shafts were used for burials is not to be definitely fixed.

(b) The following cores:

The following six cores, three rows in two lines, appear to have been built as one continuous operation after the first five.

The shafts of these six cores have the following types:

	Core type	Slab- stela	Shaft type	Area sq. m.	Capacity cu. m.	Remarks
(6) G 2135 (Junker)	II a	no name	1 cm	9.24	28.18	sole
(7) G 2140 . . .	II a	..	3 bf	4.83	6.0	sole
	VI b (drab)	..	low form			
(8) G 2150 . . .	II a	..	4 b (1)	14.0	23.1	chief
	VII b (grey)	..	6 a (3)	2.59	2.46	second shaft
(9) G 2155 . . .	II a	..	4 a (4)	17.2	37.84	chief shaft
	VII					
(10) G 2160 . . .	II a	..	4 a (2) x (unfin.)	7.15	10.72	chief shaft
(11) G 2170 . . .	II a	..	6 a (3)	2.76	3.31	sole

Only one of the shafts in the last six mastabas was given a chamber of type 1 with lining and pavement. That is G 2135, excavated by Junker, and it had a slab-stela. There seems no reason to doubt that G 2135 was used in the reign of Cheops or soon after. The mastaba G 2150 at the north end of the same line has a chapel which was decorated after the reign of Mycerinus, and it is probable that both the shafts in 2150 and 2140 were used about the end of Dyn. IV. The distribution by types is as follows:

- (a) Type 1: four of the five initial shafts and the first on the south of the third line; total 5 shafts.
- (b) Type 3: one example; G 2140 (capacity 6.0 cu. m.).
- (c) Type 4: four examples; G 2110 (26.87 cu. m.), G 2150 (chief shaft of two-shaft mastaba); 2155, 2160 (area, 7.15 sq. m.; capacity, 10.72).
- (d) Type 6: one chief shaft, G 2170; and the second shaft in 2150.

The chambers include five lined chambers and six plain rock-cut chambers. As the lined chambers represent a more expensive form and represent rock-cut chambers of still larger size, I arrange the chambers according to size in two groups:

(a) Lined chambers in order of size:

(5) G 2210 . . .	1 bf	16.5 sq. m.	54.45 cu. m.	no pavement; sole shaft
(2) G 2100 A . . .	1 cm	12.24 sq. m.	36.72 cu. m.	chief shaft
(3) G 2120 . . .	1 al	11.16 sq. m.	30.13 cu. m.	sole shaft
(6) G 2135 . . .	1 cm	9.24 sq. m.	28.18 cu. m.	no pavement; sole shaft
(1) G 2130 . . .	1 cl	9.61 sq. m.	21.62 cu. m.	sole shaft

(b) The six rock-cut chambers:

(9) G 2155 . . .	4 a (4)	17.2 sq. m.	37.84 cu. m.	chief shaft
(4) G 2110 . . .	4 a (2)	13.11 sq. m.	26.87 cu. m.	sole shaft
(8) G 2150 . . .	4 b (1)	14.0 sq. m.	23.1 cu. m.	chief shaft
(10) G 2160 . . .	4 a (2) x	7.15 sq. m.	10.72 cu. m.	sole shaft
(7) G 2140 . . .	3 bf (low form)	4.83 sq. m.	6.0 cu. m.	sole shaft
(11) G 2170 . . .	6 a (3)	2.76 sq. m.	3.31 cu. m.	sole shaft

One of the most significant facts is the small size of the lined chamber of the largest and most expensive of the mastabas, G 2130, which was nevertheless the smallest of the lined chambers (9.61 sq. m. and 21.62 cu. m.). This size is in accordance with the sizes of the lined chambers in the four initial mastabas of normal size in G 4000 and the four initial mastabas of normal size in Cem. G 1200. I conclude that G 2130 was the first of the chambers to be finished in Cem. G 2100, and was previous in date to the chambers of larger size in G 4000 and G 1201. I believe that after the construction of these large chambers the size of the lined chambers was also increased. It is clear that the largest chamber, G 2210, which had no pavement and unfinished lining, was by reason of the reconstruction of the mastaba later than 2130, 2120, and 2100. It is to be associated with the fourth in size, G 2135, because of the similar state of the lining and lack of pavement. But 2135, by reason of its smaller size and its slab-stela, probably had its chamber constructed earlier than that of 2210. Particular attention is to be directed to the size and beautiful finish of the lined chamber A of G 2100, the tomb of the mother or father of 'Prince' Mer-ib.

Three of the rock-cut chambers are of very large size, all with a cubic capacity of over 20 cu. m. They are all three of shaft type 4 and all three had decorated chapels. The fourth in size, the chamber of G 2160, is of about 10 cu. m., while the other two are very small for the size of the mastabas, being 6.0 cu. m. (G 2140) and 3.31 cu. m. (G 2170). G 2140 has an interior white stone chapel of type (3) with unfinished decoration, and the other two probably had exterior c.b. chapels destroyed or obstructed by later constructions. The two shafts 2150 and 2155 are shown by the chapels of those mastabas to be either late in Dyn. IV or early in Dyn. V. The shaft 2110, by reason of the portcullis groove and the reserve head and the old type of white limestone sarcophagus, appears to be earlier. Next after this probably came 2140. The two chambers in 2160 and 2170 are difficult to place but are probably of late Dyn. IV or early Dyn. V. Thus the series runs parallel to those in Cem. G 4000 but contains a much smaller number of chambers.

(4) *The Distribution of the Shaft Types in Cem. G 1200*

While the shafts in Cem. G 4000 and G 2100 present a variety of types and range in time to the end of Dyn. IV (to Dyn. V in Cem. G 4000), Cem. G 1200 is much more homogeneous. All the chambers of the main mastabas are of type 1 and only the shafts in the annexes of G 1223, 1225, 1227, and 1233 present another type. Eight of the ten mastabas had slab-stelae. It is clear that the ten mastabas are the result of a continued construction beginning in the reign of Cheops, as proved by the mason's graffito found on a lining block from the chamber of G 1203. I would place the shafts in the following chronological order:

(1) G 1223	.	.	II a	Prince	1 bmx	9.53 sq. m.	24.8 cu. m.	sole shaft
			IV iii	Ka-m-aha				
(2) G 1203	.	.	II a	Kanofer	1 cl	9.3 sq. m.	30.69 cu. m.	sole shaft
(3) G 1225	.	.	II a	Princess	1 bl	8.96 sq. m.	24.19 cu. m.	sole shaft
			IV iii	Nefert-yabet				
(4) G 1205	.	.	II a	Khufuw-nekht	1 cl	8.99 sq. m.	21.47 cu. m.	sole shaft
(5) G 1201	.	.	II a	Prince	1 al	13.6 sq. m.	46.51 cu. m.	sole shaft
			IV iii	Wepemnofret				

The above are the five initial mastabas.

(6) G 1227	.	.	II a	Sethy-hekenet	1 ar	9.73 sq. m.	28.7 cu. m.	sole shaft
(7) G 1207	.	.	II a	Nofert	1 al	8.64 sq. m.	19.14 cu. m.	sole shaft

(8) G 1233	.	II a	..	1 alx	10.95 sq. m.	39.97 cu. m.	sole shaft
(9) G 1235	.	II a	Yeny	1 af	10.58 sq. m.	30.68 cu. m.	sole shaft
(10) G 1209	.	II a	..	1 cl	6.37 sq. m.	12.42 cu. m.	sole shaft

Arranged in order of the cubic capacity the list is as follows:

(5) G 1201	.	II a	Prince Wepemnofret	1 al	13.6 sq. m.	46.51 cu. m.	sole
(8) G 1233	.	IV iii	..	1 alx	10.95 sq. m.	39.97 cu. m.	sole shaft
(2) G 1203	.	II a	Kanofer	1 cl	9.3 sq. m.	30.69 cu. m.	sole
(9) G 1235	.	II a	Yeny	1 af	10.58 sq. m.	30.68 cu. m.	sole
(6) G 1227	.	II a	Sethy-hekenet	1 ar	9.73 sq. m.	28.7 cu. m.	sole
(1) G 1223	.	II a	Prince Ka-m-aha	1 bmx	9.53 sq. m.	24.8 cu. m.	sole
(3) G 1225	.	IV iii	Princess Nefert-yabet	1 bl	8.96 sq. m.	24.19 cu. m.	sole
(4) G 1205	.	II a	Khufuw-nekht	1 cl	8.99 sq. m.	21.47 cu. m.	sole
(7) G 1207	.	II a	Nofert	1 al	8.64 sq. m.	19.14 cu. m.	sole
(10) G 1209	.	II a	..	1 cl	6.37 sq. m.	12.42 cu. m.	sole

It is to be noted that the five initial mastabas have four chambers of about the same size as those of the initial mastabas in Cem. G 4000 and also one of more than usual size. The chambers of normal size built in the early part of the Cheops work in this cemetery had floor areas of about 10 sq. m. and capacities of about 27 cu. m. The later chambers, while they often follow the early norm, present great variations, on the one hand increases in size and on the other diminutions. In order to complete the review of this cemetery I give here the shafts in the annexes of these mastabas which were built in two cases before the main mastaba was complete and the fourth after its completion:

(11) G 1223-annex	.	II a	..	3 clx	5.5 sq. m.	8.25 cu. m.	sole
(12) G 1225-annex	.	II a	..	3 bf	5.72 sq. m.	9.03 cu. m.	sole
(13) G 1233-annex	.	II a	..	6 b (1) (irreg.)	5.91 sq. m.	7.97 cu. m.	sole
(14) G 1227-annex	.	X b	..	5 b (1)	3.99 sq. m.	7.68 cu. m.	chief shaft
1227 (= 1228)	..	..	..	7 x	..	..	second shaft

The order of the shafts thus presented is types 1, 3, 4, 6, and 5. It seems clear that all these shafts were made in Dyn. IV, while the ten shafts of type 1 were probably prepared in the reign of Cheops and used in that reign or no later than the reign of Chephren.

(5) *Shaft Type of the Isolated Mastaba, G 2000*

The great core-mastaba G 2000 with its unfinished white casing is of the rare core-type III ii, and its construction was set in the preceding chapter as later than the foundation of the three early cemeteries of the Western Field. The type of its shaft, type 2, associates the chamber with the nine chambers of that type in Cem. G 4000 and with the similar great mastaba G 7510 in the Eastern Field.

(1) G 2000	.	IV iii	large 2 alx (ramp; unlined)	36.36 sq. m.	204.67 cu. m.	sole shaft
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The enormous size of the rock-cut chamber taken with the red lines on the ceiling indicates that a lining had been designed as in the four unlined chambers of this type in Cem. G 4000.

(6) *The Distribution of the Shaft Types in Cem. G 7000*

With the shaft types of the reign of Cheops marked out in the three nucleus cemeteries of the Western Field, the shaft types of Cem. G 7000 made after year 20 of Cheops, and onwards to the end of the reign of Chephren, may now be examined.

The type forms are distributed as follows:

(a) The four northern twin-mastabas:

	Core type	Mast. type	Shaft type	Area sq. m.	Capacity cu. m.	Remarks
(1) G 7120 A	IV ii	VI x	3 cf	25.0	87.5	sloping passage from ENE; granite coffin; Prince Ka-wab
(2) G 7110 B	IV ii	VI x	3 af	22.25	77.87	unused: Hetep-heres II
(3) G 7220 A	IV i	VI x	3 amx	41.43	122.64	unfin. red granite coffin; Hor- dedef
(4) G 7210 B	IV i	VI x	3 af	25.18	85.61	
(5) G 7320 A	IV ii	VI x	3 af	26.22	89.14	red granite coffin; broken
(6) G 7310 B	IV ii	VI x	4 a (1)	27.23	58.27	w. lst. coffin; broken
(7) G 7420 A	III	VI x	3 cmx	32.49	120.21	unused (?)
(8) G 7410 B	III	VI x	3 af	41.88	121.22	2 chambers; red granite sarc.; Meresankh II

(b) The finished twin-mastabas at the west end of the southern row:

(9) G 7130 B	IV	VI x	4 a (1)	43.59	113.08	2 rooms and alcove burial- chamber partly lined; altered by Ptol. cuttings; granite cof- fin; Prince Khufuw-khaf
(10) G 7130 A	IV	VI x	6 b (2)	3.62	3.8	open and empty

(c) The two unfinished cores of the southern twin-mastabas:

(11) G 7230 B	IV	VI e	3 clx	18.92	61.49	altered by Ptol. cuttings
(12) G 7230 A	IV	VI e	3 al	21.6	64.8	open and empty
(13) G 7330 B	IV	VI (uncased)	3 bf	15.48	52.53	open and empty; altered by Ptol. cuttings
(14) G 7330 A	IV	VI (uncased)	3 bf	7.2	13.68	unfinished; plundered

(d) The fourth of the southern twin-mastabas, cased in the reign of Chephren:

(15) G 7430 A	IV	VI x	3 am	42.0	136.42	2 rooms; red granite sarc.; Min-khaf
(16) G 7430 B	IV	VI x	4 a (1) (lined)	13.0	43.55	2 chambers; 2nd unfinished

(e) The succeeding six mastabas built around the eight twin-mastabas:

(17) G 7510 B	IV iii VI x (ramp)	..	2 amx	13.11	45.88	no sarc.; no can. rec.; no pave- ment
(18) G 7650 C	IV iv	..	3 afx	25.7	100.23	granite sarc.; chief shaft
B	IV x	..	7 x	..	..	unused
A	..	..	3 amx	24.65	92.44	empty

		Core type	Mast. type	Shaft type	Area sq. m.	Capacity cu. m.	Remarks
(19)	G 7450 A	IV iii VI (unfin.)	..	3 al	22.74	60.49	rough-built burial-pit
	B	..	..	7 x	..	..	shaft B; unused
(20)	G 7520 A	IV	..	3 cm	24.56	88.41	stone coffin; intrusive
(21)	G 7530 A	r.c.	..	4 a (1)	15.4	28.79	bl. gran. sarc.; Meresankh III
(22)	G 7350 A	IV	VI x	3 am	33.8	167.31	red gran.; Hetep-heres II (?)
	B	..	..	7 x	..	..	unused
	C	..	..	(2) 4 b (1)	10.54	15.81	unfinished
			..	(1) 6 b (1)	3.8	3.87	unfinished (?)
(23)	G 7050 B	..	V x	3 bm	17.95	38.59	reused Ptol.
(f) The eight following nummulitic mastabas of type VI a:							
(24)	G 7550 B	VI a (3)	..	3 amx	24.22	80.82	Duwa-ne-Hor
	A	..	..	6 b (2)	0.74	0.4	begun as type 4
				(unfin.)			
(25)	G 7660 B	VI a (3)	..	3 afx	32.22	81.45	2 connect. rooms; red gran. sarc.; Ka-m-sekhem
	A	..	..	3 cl	27.28	105.85	empty
(26)	G 7760 B	VI a (3)	..	3 al	40.71	122.84	2 connect. rooms; red gran. sarc.; Min-dedef
	A	..	..	3 bf	8.75	15.31	empty
(27)	G 7750 B	VI a (3)	..	3 am	6.86	12.35	chamber 2
				(1) type 3 (unfin.)			chamber 1
	A	..	..	3 bf	6.5	19.82	empty
(28)	G 7060 B	VI a (3)	..	4 b (4) x	17.88	35.76	w. lst. sarc.; Neferma'at
(29)	G 7070 B	VI a (3)	..	4 b (4) x	18.88	38.59	w. lst. sarc.; Seneferuw-khaf
(30)	G 7820 A	VI a (3)	..	4 b (1)	6.88	12.04	empty; Princess Nefert-kauw
	B	..	..	3 af	16.4	47.56	canopic pit; husband of prin- cess
(31)	G 7810 A	VI a (3)	..	3 afx	18.13	46.32	coffin-pit; canopic pit; turning recess; wife of Zaty
	B	..	..	3 bf	19.78	63.29	canopic pit; turning recess; Prince Zaty
(g) Mastabas in lines 5 and 6 south of 7550 and 7660:							
(32)	G 7560 A	VI a (3)	..	7 x	..	..	no chamber
	B	..	..	4 b (1)	12.84	37.71	broken w. lst. coffin and two reserve heads
(33)	G 7670 A	VI a (3)	..	4 b (1)	5.26	4.49	in process of enlargement
				(unfin.)			
	B	..	..	3 bf	11.34	22.11	canopic pit; plundered
(34)	G 7690 A	IV iii	..	3 af	12.58	19.12	plundered
	B	..	..	4 a (1) x	9.28	19.3	plundered

The occurrence of the types may be summarized as follows:

(a) The four northern twin-mastabas:

Type 3 af: G 7110 B, 7210 B, 7410 B, 7320 A; 4 examples.

Type 3 amx (stair): G 7220 A; 1 example.

Type 3 cf: G 7120 (sloping passage); 1 example.

Type 3 cmx: G 7420 A; 1 example.

Sum total of type 3: 7 shafts.

Type 4 a (1): G 7310 B; 1 example.

Total shafts 8: of which 7 are of type 3, while 1 is of type 4.

It is to be noted that all the other shafts in the four northern twin-mastabas were of type 7 x and apparently unused.

(b) The finished mastabas, the westernmost of the four southern twin-mastabas:

Type 4 a (1) (2 chambers and coffin alcove): G 7130 B; 1 example.

Type 6 b (2): G 7130 A; 1 example.

Total: 1 shaft of type 4 and 1 shaft of type 6.

(c) The two unfinished mastabas of the four southern twin-mastabas:

Type 3 bf: G 7330 A and B; 2 shafts.

Type 3 al: G 7230 A; 1 example.

Type 3 clx: G 7230 B; 1 example.

Total number of shafts: 4, all of type 3.

(d-e) The fourth twin-mastaba on the south and the succeeding six mastabas:

Type 2 amx (ramp) lined: G 7510 B.

Type 3 afx: G 7650 A.

Type 3 al (unfin.): G 7450 A.

Type 3 am: G 7430, 7350 A; 2 examples.

Type 3 amx: G 7650 A; 1 example.

Type 3 bm: G 7050 B; 1 example.

Type 3 cm: G 7520 A; 1 example.

Total examples of type 3: 7 shafts.

Type 4 a (1) (lined): G 7430 B (second room unfinished).

Type 4 a (1): G 7530 A; 1 example.

Type 4 b (1): G 7350 C (2); unfinished.

Total number of shafts, 11 in 7 mastabas: 1 of type 2; 7 of type 3; and 3 of type 4, excluding formless unfinished chambers and shafts of type 7 x.

One of the shafts (G 7530 A) of type 4 a (1) was made probably in the first year of Shepseskaf. The shafts in 7350 are assigned by me to a few years later, shaft A of type 3 am and C of type 4 b (1). All the other shafts in this group of seven mastabas were made after the accession of Chephren and probably before the end of his reign.

(f) The eight following nummulitic mastabas of type VI with chapels of type (3):

Type 3 afx: G 7660 B (2 chambers), 7810 A; 2 examples.

Type 3 bf: G 7750 A, G 7810 B; 2 examples.

Type 3 bfx: G 7760 A.

Type 3 al: G 7760 B (2 rooms); 1 example.

Type 3 cl: G 7660 A; 1 example.

Type 3 am: G 7750 B (2); 1 example.

Type 3 amx: G 7550 B; 1 example.

Type 3 af: G 7820 B; 1 example.

Total examples of type 3: 10 shafts.

Type 4 b (4) x: G 7060 B; 2 examples.

Type 4 b (1): G 7820 A; 1 example.

Type 6 b (2), begun as type 3 or 4 and hastily converted: G 7550 A.

Total number of shafts, 14 shafts in 8 mastabas: 10 of type 3; 3 of type 4; and 1 of type 6.

(g) Mastabas added in lines 5 and 6 south of G 7550 and 7660:

Type 3 af: G 7690 A; 1 example.

Type 3 bf: G 7670 B; 1 example.

Total examples of type 3: 2 shafts.

Type 4 a (1) x: G 7690 B; 1 example.

Type 4 b (1) x: G 7560 B; 1 example.

Type 4 b (1) (unfin.): G 7670 A; 1 example.

Total examples of type 4: 3 shafts.

Type 7 x: G 7560 A; 1 example.

Total number of shafts, 6 in 3 mastabas: 2 of type 3; 3 of type 4; and 1 of type 7 x.

The chambers arranged by their cubic capacity occur in the following order:

	Capacity cu. m.	Area sq. m.	Shaft type	Remarks
(21) G 7350 A	167.31	33.8	3 am	Queen Hetep-heres II (?); reign of Shepseskaf (?)
(15) G 7430 A	136.42	42.0	3 am	Prince Min-khaf; granite sarc.; 2 connecting rooms
(26) G 7760 B	122.84	40.71	3 al	gran. sarc.; 'Prince' Min-dedef; 2 connecting rooms
(3) G 7220 A	122.64	41.43	3 amx (stair)	2 connecting rooms; gran. sarc.; Prince Hordedef
(8) G 7410 B	121.22	41.88	3 af	2 connecting rooms; gran. sarc.; Meresankh II
(7) G 7420 A	120.21	32.49	3 cmx	king, husband of Meresankh II; unused
(9) G 7130 B	113.59	43.59	4 a (1)	Prince Khufuw-khaf; 2 rooms and alcove; burial-chamber partly lined; fragmentary red granite coffin
(25) G 7660 A	105.85	27.28	3 cl	wife of Ka-m-sekhem
(18) G 7650 C	100.23	25.7	3 afx	gran. sarc.; Princess Merytyetes
Total, 9 shafts: 2 queens, 3 real princes, 1 princess, 1 wife of a prince, 1 'prince' and 1 wife of a 'prince'.				
(18) G 7650 A	92.44	24.65	3 amx	north shaft in mastaba of Merytyetes and Akhet-hetep
(5) G 7320 A	89.14	26.22	3 af	2 rooms, 2nd unfinished; sarc.; son of Cheops
(20) G 7520 A	88.41	24.56	3 cm	rough-built stone coffin
(1) G 7120 A	87.5	25.0	3 cf 9	red gran. sarc.; Prince Ka-wab; sloping passage
(4) G 7210 B	85.61	25.18	3 af	wife of Prince Hordedef

	Capacity cu. m.	Area sq. m.	Shaft type	Remarks
(25) G 7660 B	81.45	32.22	3 afx	2 connecting rooms (W); red gran. sarc.; Ka-m-sekhem, 'prince'
(24) G 7550 B	80.82	24.32	3 amx	'Prince' Duwa-ne-Hor
(2) G 7110 B	77.87	22.25	3 af	unfin.; intended for Hetep-heres II
(12) G 7230 A	64.8	21.6	3 al	open and empty; probably wife
(31) G 7810 B	63.29	19.78	3 bf	canopic pit; turning recess; Prince Zaty
(11) G 7230 B	61.49	18.92	3 clx	altered by Ptol. cuttings; probably a prince
(19) G 7450 A	60.49	22.74	3 al	unfin. rough-built stone coffin; chief shaft
(6) G 7310 B	58.27	27.23	4 a (1)	frags. red gran. sarc. (flat lid); wife of a son of Cheops
(13) G 7330 B	52.53	15.48	3 bf	open and empty; altered by Ptol. cuttings; probably a prince

These twenty-three chambers all have cubic capacities of over 50 cu. m. In the Western Field only one of the Cheops mastabas has a capacity comparable with these, and that is G 4000 N (Prince Hemyuwen) with a capacity of 89.78 cu. m. Attention is to be called to the large size of the isolated mastaba G 2000 in the Western Field, with its chamber of type 2 (unlined) which has a cubic capacity of 204.67 cu. m. This chamber is probably later than the chambers of type 3 in the twin-mastabas of Cem. G 7000. All the rest of the lined chambers in the Western Field are less than 50 cu. m. in size.

(30) G 7820 B	47.56	16.4	3 af	canopic pit; Iynefer..., husband of princess
(31) G 7810 A	46.32	18.13	3 afx	coffin-pit; canopic pit; turning recess; wife of Prince Zaty
(17) G 7510 B	45.48	13.11	2 amx (ramp)	tomb of Prince Ankh-haf; probably brother of Cheops
(16) G 7430 B	43.55	13.0	4 a (1) (lined)	2 rooms; 1 unfin.; probably wife of Min-khaf
(23) G 7050 B	38.59	17.95	3 bm	re-used in Ptol. period; tomb of Queen Nefert-kauw
(29) G 7070 B	38.59	18.88	4 b (4) x	w. lst. sarc.; Sneferuw-khaf; grandson of Cheops
(32) G 7560 B	37.71	12.84	4 b (1) x	broken w. lst. coffin; 2 reserve heads
(28) G 7060 B	35.76	17.88	4 b (4) x	w. lst. sarc.; Prince Neferma'at, son of Cheops
(21) G 7530 A	28.79	15.4	4 a (1)	bl. gran. sarc.; Queen Meresankh III
(33) G 7670 B	22.11	11.34	3 bf	pottery models of Dyn. IV
(27) G 7750 A	19.82	6.5	3 bf	empty; wife of 'prince' (?)
(34) G 7690 B	19.3	9.28	4 a (1) x	completely plundered
(34) G 7690 A	19.12	12.58	3 af	completely plundered
(22) G 7350 C	15.81	10.54	4 b (1) (unfin.)	empty and open; sub. to tomb of Hetep-heres II
(26) G 7760 A	15.31	8.75	3 bfx	empty; wife of 'Prince' Min-dedef
(14) G 7330 A	13.68	7.2	3 bf	unfin. and empty; wife of prince (?)
(27) G 7750 B (2)	12.35	6.86	3 am	tomb of 'Prince' . . .
(30) G 7820 A	12.04	6.88	4 b (1)	empty; Princess Nefert-kauw (?)
(33) G 7670 A	4.49	5.26	4 b (1) (unfin.)	completely plundered

	Capacity	Area	Shaft	Remarks
	cu. m.	sq. m.	type	
(10) G 7130 A	3.8	3.62	6 b (2)	wife of Khufuw-khaf (?)
(24) G 7550 A	0.4	0.74	6 b (2)	begun as type 4; unused; intended for wife of (unfin.) Duwa-ne-Hor

Total 44 shafts extending in date from the last few years of Cheops to the end of Dyn. IV.

Nine are over 100 cu. m.; 8 of type 3 and 1 of type 4; all members of the royal family.

Fourteen range from 50 to 100 cu. m.; 13 of type 3 and 1 of type 4 (G 7310 B): 2 sons of Cheops (Ka-wab and Hordedef) and probably 2 other sons (G 7230 B and 7330 B); 1 prince (son of Chephren (?)); 2 'princes' (Ka-m-sekhem, Duwa-ne-Hor); 1 husband of a princess (G 7650 A); 1 intended for Queen Hetep-heres II; 3 wives of princes (G 7120 B, 7310 B, and 7230 A); and 2 unidentified persons, probably of the royal family.

Ten with capacity between 20 and 50 cu. m.; 1 of type 2 (lined), 4 of type 3, and 5 of type 4: 2 queens (Nefert-kauw and Meresankh III); 2 princes (Ankh-haf and Neferma'at); 1 husband of a princess (G 7820 B); 2 wives of princes (G 7810 A and 7430 B); 1 'prince' (7070 B); 2 unidentified persons (G 7560 B with 2 reserve heads, and 7670 B).

Eight shafts with chambers from 10 to 20 cu. m.; 5 of type 3 and 3 of type 4: 1 princess (G 7820 A); 1 'prince' (G 7750 B); 2 wives of 'princes' (G 7750 A and 7760 A); 1 probably wife of a prince (G 7330 A); and 3 unidentified persons (G 7350 C and 7690 A, B), probably all members or descendants of the royal family.

Three shafts of less than 10 cu. m.; 1 of type 4 and 2 of type 6: 1 wife of a prince (G 7130 A); 1 wife of a 'prince' (G 7550 A); and 1 unidentified person (G 7670 A).

The examples of the different types are as follows:

Type 1: no example (27 in the Western Field).

Type 2: 1 in the Eastern Field (10 in the Western Field).

Type 3: 30 in the Eastern Field (1 in Cem. G 4000, row 5, in line 6; 2 in row 3 and line 8; 1 in Cem. G 2100; total 4 in the Western Field).

Type 4: 11 examples in the Eastern Field (2 in Cem. G 4000, latter half; 3 in Cem. G 2100; total 5 in the 3 nucleus cemeteries of the Western Field).

Type 6: 2 examples in the Eastern Field.

The absence of type 1 in the Eastern Field and the prevalence of that type in the early mastabas of the Western Field are facts which emphasize the conclusion that the Eastern Field with its larger norm of core and its great finished twin-mastabas was later in its initiation than the mastabas of the Western Field with their single shafts of type 1. The chambers of the great twin-mastabas of the Eastern Field were no doubt intended to be lined, but no trace of lining was found (not even plaster marks on the walls). The extremely large chambers of type 3 lead to the conclusion that this type was introduced in these mastabas. The chambers of the queen's pyramids were lined. At any rate the introduction of the chamber of type 3 is thus fixed approximately to the end of the reign of Cheops. Type 4, which is a cheaper variation of type 3, with the roof of the passage at the level of the roof of the chamber, also appears in this cemetery. The first example by position was that in G 7310 B (No. 6) for the wife of Prince Ra-bauwf (?), but may have been excavated as late as the reign of Chephren. The next by position is No. 9, G 7130 B, of type 4 a (1), the burial-place of Prince Khufuw-khaf. But the form of this burial-chamber was obviously designed as type 3 a and not completely finished so that it now

appears to be of type 4 a (1). Therefore I exclude this accidental example from the list of chambers of type 4. Probably the earliest is G 7430 B (No. 16) of type 4 a (1), partially lined, which was made for the wife of Min-khaf and made after the accession of Chephren. The other four examples of type 4 are later. G 7530 A is the tomb of Meresankh III, dated to the first year of Shepseskaf; No. 21, G 7530 C, appears to be still later in date; No. 28, G 7060 B, is the tomb of Prince Neferma'at, a son of Cheops, and No. 29, 7070 B, is the tomb of his son. The last-named two of type 4 may be as early as the end of the reign of Chephren or as late as that of Mycerinus.

These facts make it clear that type 3 was introduced in the reign of Cheops in the last few years and was the prevailing type for the important chambers of the reign of Chephren. Type 4 was introduced as a cheaper form of type 3, probably in the reign of Chephren, and became the prevailing type of the later part of Dyn. IV for better burial-chambers. But type 3 continued in use for unusually fine shafts down to the end of Dyn. IV.

The chambers of type 3 in the Eastern Field are considerably larger than the mean size of those of types 1 and 2 in the Western Field, and one chamber of type 4 had a capacity of 113 cu. m. The size of the eastern chambers is further emphasized by the fact that five shafts had two connecting rooms, G 7410 B (No. 8), G 7130 B (No. 9), G 7430 A (No. 15), G 7660 B (No. 25), and G 7760 B (No. 26). Two others, G 7220 A (No. 3) and G 7430 B (No. 16), had a second chamber begun but left unfinished. The five finished two-room chambers all had a granite coffin in the second chamber, and it may be assumed that the second chamber was designed as a coffin-chamber. None of the shafts in the Western Field had two-room apartments in the same sense, although a few later chambers had a coffin-recess in the west wall. The persons represented by the seven shafts with two-room apartments are: (1) Prince Hordedef, (2) Queen Meresankh II, (3) Prince Khufuw-khaf, (4)-(5) Prince Min-khaf and his wife, (6) 'Prince' Ka-m-sekhem, and (7) Prince Min-dedef. Of the two lined chambers one, G 7510 B (No. 17), was of type 2 amx (ramp) and is to be dated, I think, to the early part of the reign of Chephren. The ten other examples of type 2 are all in the Western Field, nine in Cem. G 4000, row 4 and line 7, and one in the isolated mastaba G 2000. They were probably used in the reign of Chephren. The second lined chamber in the Eastern Field, G 7430 B (No. 16), is actually of type 4 a (1) and belonged to the wife of Prince Min-khaf. It is the only lined chamber of type 4 found in the two fields, and appeared, in fact, not to have been completely lined. It must be noted also that the coffin-chamber in the great tomb of Prince Khufuw-khaf had its south wall partly lined with white limestone.

2. COMPARISON OF THE SIZES OF THE BURIAL-CHAMBERS IN MASTABAS AND PYRAMIDS

The shafts as arranged in the order of the cubic capacity of the chambers are obviously not in chronological order. This fact makes it necessary to examine the sizes of the chambers in the approximate chronological order already established.

a. The Normal Size of Chambers of Type 1

The lined chambers of the initial cores of normal size reveal also a normal size of burial-chamber, and the core G 2130, which is larger than normal size, has a chamber of the same size. If we take

the ten chambers thus indicated, the mean size presents an area of 10.14 sq. m. and a capacity of 26.62 cu. m. These chambers present in detail the following variations:

			Chamber	Rock chamber		
	Core type		type	sq. m.	cu. m.	
(1) G 4160	II b: normal	slab-stela	1 br	12.16	32.59	sole shaft
(2) G 4150	II b: normal	slab-stela	1 ar	10.23	25.06	sole shaft
(3) G 4260	II b: normal	slab-stela	1 ar	10.87	20.11	sole shaft
(4) G 4250	II b+IV iii: normal	slab-stela	1 ar	10.46	25.52	sole shaft
(5) G 2130	II b: large	..	1 cl	9.61	21.62	sole shaft
(6) G 2120	II a: large	slab-stela	1 al	11.16	30.13	sole shaft
(7) G 1223	II a+IV iii: large	slab-stela	1 brx	9.53	24.8	with annex
(8) G 1203	II a: normal	slab-stela	1 cl	9.3	30.69	sole shaft
(9) G 1225	II a+IV iii: normal	slab-stela	1 bl	8.96	24.19	with annex
(10) G 1205	II a: normal	slab-stela	1 cl	9.99	21.47	sole shaft
Mean size of 10 chambers			.	10.14	26.62	

The chamber of the cores added to the initial cores follows in general the same mean size. I omit two chambers of unusually small size, one in Cem. G 4000 and one in Cem. G 1200, two unusually large chambers in G 4000, and two in Cem. G 2100. These chambers form a group of nine chambers, as follows:

			Chamber	Rock chamber		
	Core type		type	sq. m.	cu. m.	
(11) G 4350	III i: normal	slab-stela	1 cm	11.39	29.04	sole shaft
(12) G 4460	IV i: normal	slab-stela	1 am	10.39	30.13	sole shaft
(13) G 4450	IV i: normal	slab-stela	1 cm	11.72	29.15	sole shaft
(14) G 4560	IV i: normal	slab-stela	1 al	10.65	27.48	sole shaft
(15) G 4550	IV i: normal	no stela	1 cm	10.92	29.36	sole shaft
(16) G 2135	II a: normal	slab-stela	1 cm	9.24	28.18	sole; no pavement
(17) G 1227	II a: normal	slab-stela	1 ar	9.73	28.7	with annex
(18) G 1207	II a: normal	slab-stela	1 al	8.64	19.14	sole shaft
(19) G 1235	II a: normal	slab-stela	1 af	10.58	30.68	sole shaft

These chambers present a mean area of 10.36 sq. m. and a mean capacity of 26.98 cu. m. The mean of the above nineteen chambers presents an area of 10.23 sq. m. and a capacity of 26.79 cu. m. The variations of size around this mean are not obviously visible in the chambers themselves, and it seems clear that all were executed on much the same general lines as well as in the same manner. I conclude that these chambers were in general carried out by the public works department of the king. Nowhere in chambers privately excavated can any such similarity of size or technique be recorded.

Having established the mean size of the great majority of the lined chambers of type 1, it remains to consider those of abnormal size. In the first place there are two chambers of unusually small size, G 4360 and G 1209:

			Chamber	Rock chamber		
	Core type		type	sq. m.	cu. m.	
(a) G 4360	IV i: normal	slab-stela	1 ar	7.0	15.4	sole shaft
(b) G 1209	II a: normal	no stela	1 cl	6.37	12.42	sole shaft

These small tombs are markedly less than the mean size, but still only a little less than the smaller variation among the nineteen chambers of the above list. I imagine that the two persons concerned or their immediate families failed to secure from the working gangs equal treatment with the other persons concerned. Allowance must always be made for bribery or pressure in such circumstances.

The list of abnormally large chambers is headed by G 4000 N and G 1201. These two mastabas are the largest in the nucleus cemeteries of the Western Field, being exceeded only by the isolated mastaba G 2000:

	Core type	Chamber type	Rock chamber		
			sq. m.	cu. m.	
(a) G 4000 N	II b+IV iii	1 blx	23.32	89.78	chief shaft
(b) G 1201	II a+IV iii: large	1 al	13.6	46.51	sole shaft

The increase in the sizes of the chambers of these two abnormally large mastabas is the natural result of the importance of the owners, both royal princes. But there are five mastabas of normal size which have chambers of unexpectedly large size:

(c) G 4660	IV i: normal	?	1 cl	13.32	27.28	sole shaft
(d) G 4650	IV i: normal	no stela	3 cm	15.8	48.19	sole shaft

These two chambers are in the last line (line 6) of the eight mastabas added to Cem. 4000.

(e) G 2100 A	II a: small	slab-stela	1 cl	12.07	34.4	chief shaft
(f) G 2210	II a+VI a	no stela	1 bf	16.5	54.45	sole shaft
(g) G 1233	II a: normal	no stela	1 alx	10.95	39.97	with annex

The beautiful chamber of G 2100 is larger than any of the nineteen chambers listed as being of the ordinary mean size, but is not so far beyond the range as to require any explanation. G 4660 and G 1233 are only a little larger than G 2100. G 4650 is in reality not larger than these, as it was never lined and its capacity, 48.19 cu. m., is the rock-cut capacity. G 2210 is probably the last of the lined chambers, and its extraordinarily large size (16.5 sq. m. and 54.45 cu. m.) is no doubt due to the means of the owner, who reconstructed the old core as a very large mastaba (627.61 sq. m.) of type VI a or VII a.

b. Use of the Normal Size in Chambers of Type 2

The lined chambers of type 2 must be compared in size with the lined chambers of type 1:

	Core type	Type	Lined chamber		Rock chamber	
			Area	Capacity	Area	Capacity
(1) G 4140	III i: normal	2 brx (ramp)	16.49 sq. m.	46.88 cu. m.	23.71 sq. m.	73.57 cu. m.
(2) G 4340	IV i: normal	2 cr (ramp)	10.98 sq. m.	28.57 cu. m.	15.2 sq. m.	42.82 cu. m.
(3) G 4540	IV i: normal	2 ar (stair)	9.86 sq. m.	27.55 cu. m.	20.32 sq. m.	56.89 cu. m.
(4) G 4640	IV i: normal	2 br (stair)	9.22 sq. m.	23.6 cu. m.	13.19 sq. m.	35.08 cu. m.

All of these chambers are in one-shaft mastabas. Only one mastaba, G 4140, had a slab-stela. G 4140 A was lined and paved and the other three were lined but not paved.

Three of these chambers follow closely the size set forth above for the majority of the lined chambers of type 1, namely, G 4340, 4540, and 4640. The other, G 4140, the chamber of the Princess Merytyetes, is abnormally large. Yet all these chambers were clearly cut in the same manner and probably by the same gang of workmen.

With these lined chambers of type 2 the unlined chambers of the same type are to be compared:

			Rock chamber	
	Core type	Chamber type	Area	Capacity
(5) G 4240	IV i: normal	2 bm (stair)	20.01 sq. m.	53.42 cu. m.
(6) G 4440	IV i: normal	2 brx (ramp)	17.62 sq. m.	47.75 cu. m.
(7) G 4740	IV i: normal	2 cr (stair)	16.66 sq. m.	42.64 cu. m.
(8) G 4750	IV i: normal	2 br (stair)	21.65 sq. m.	51.83 cu. m.
(9) G 4760	IV i: normal	2 cr (stair)	16.4 sq. m.	50.84 cu. m.

All these chambers are in one-shaft mastabas. Only one, G 4760, had a slab-stela. These five rock-cut chambers, if they had been lined with masonry, would have presented capacities of about the mean size noted above. The red construction lines on the ceiling of G 4240, G 4440, G 4740, and G 4760 prove that these four were intended to be lined, and it is reasonable to assume that all five were excavated with the intention of lining them. G 4750, after the abandonment of the idea of lining it, was provided with a coffin-recess in the west wall, a unique feature in the chambers of type 2. The condition of these five chambers is no doubt connected with the unfinished condition of the casings of these mastabas.

In comparison with the lined and unlined chambers of type 2 in Cem. G 4000 is to be noted the unlined chamber of G 2000. The mastaba is the largest either in the Eastern or Western Field (5,586.0 sq. m.), a little larger than G 7510 of the Eastern Field. The chamber was intended to be lined, but the lining was never built:

			Rock chamber		Lined chamber	
	Core type	Chamber type	sq. m.	cu. m.	sq. m.	cu. m.
(a) G 2000	III ii: large	2 alx (ramp)	39.36	204.67	27.81	136.26
						(indicated by red lines)

The rock-cut chamber is the largest of all the burial-chambers in mastabas of Dyn. IV at Giza, and the lined chamber as designed but not built would have been very much larger than any of the lined chambers.

In the Eastern Field there are two lined chambers and these are to be compared with the mean size obtained in the Western Field:

		Chamber				Remarks
	Core type		type	sq. m.	cu. m.	
(1) G 7510	IV iii: large	dec. chapel	2 amx (ramp)	13.11	45.88	sole shaft
(2) G 7430 B	IV ii: twin	chapel	4 a (1)	13.0	43.55	chief shaft; 2 chambers with 2nd unfinished

These two chambers are not far apart in date. The chamber of type 2 is probably the earlier and from the early part of the reign of Chephren. The size is about the same as that of 4140, which is of the same type and the largest of the lined chambers of type 2 in the Western Field. The mastaba 7510 is the largest in the Eastern Field and is about the same size as the great isolated mastaba G 2000 in the Western Field, which, as shown above, would have had a capacity of 136.26 cu. m. if the lining indicated by the red lines had been carried out. The other lined chamber, that of the wife of Prince Min-khaf, was of type IV with two chambers intended, but the second chamber unfinished. The lining was as a matter of fact never completely built. The size of this room was about the same as that of G 7510 and G 4140. The unfinished lining of the coffin-chamber in G 7130 B is entirely anomalous.

c. The Sizes of Chambers of Type 3

The enormous size of the chamber of the mastaba G 2000 points it out for comparison with the unlined chambers of type 3 in the Eastern Field. It is probable that these chambers were originally planned as lined chambers, but owing to the death of Cheops and other circumstances were used unlined. It is therefore advisable to consider only the sizes of the rock-cut chambers. Taking the chambers of the four twin-mastabas of the north row, the order in size is as follows:

		Chamber	Rock chamber		Remarks
		type	sq. m.	cu. m.	
(1) G 7220 A	2nd twin-mastaba: man	3 amx (stair)	41.43	122.64	2 rooms; gran. sarc.; Hordedef
(2) G 7410 B	4th twin-mastaba: wife	3 af	41.88	121.22	2 rooms; gran. sarc.; Meresankh II
(3) G 7420 A	4th twin-mastaba: man	3 cmx	32.49	120.21	husband of Meres- ankh II
(4) G 7320 A	3rd twin-mastaba: man's shaft	3 af	26.22	89.14	2 rooms (1 unfin.); sarc.; prince
(5) G 7120 A	1st twin-mastaba: man's shaft	3 cf+9	25.0	87.5	gran. sarc.; Prince Ka-wab; sloping passage added
(6) G 7210 B	2nd twin-mastaba: wife's shaft	3 af	25.18	85.61	wife of Prince Hor- dedef
(7) G 7110 B	1st twin-mastaba: wife's shaft	3 af	22.25	77.87	unfin.; Hetep-heres II
(8) G 7310 B	3rd twin-mastaba: wife's shaft	4 a (1)	27.23	58.27	gran. sarc.; wife of prince

The rock-cut chamber of G 2000 had a capacity of 204.67 cu. m., considerably larger than the greatest of these chambers. The rock-cut chamber of the large mastaba of Prince Hemyuwen (G 4000) of type 1 blx had an area of 33.15 sq. m. and a capacity of 135.92 cu. m., also a little larger than the largest of the chambers of the four north twin-mastabas of Cem. 7000. It is therefore obvious that the large sizes of the rock-cut chambers in the Eastern Field are in accordance with the largest lined chambers of the Western Field and indicate, as do other factors, the importance of the royal children for whom the twin-mastabas of the Eastern Field were intended. The largest chambers in the twin-mastabas have a capacity of 120-123 cu. m. and are three in number. The owners of these three were Prince Hordedef, Queen Meresankh II, and the husband of Queen Meresankh II. The last-named person, who became a king, was not buried in the chamber prepared for him, and it is obvious that the chamber was excavated before he became king. Four chambers range in size from 89 to 77 cu. m. and belonged to Prince Ka-wab, Prince Ra-bauwf(?), the wife of Prince Hordedef, and the wife of Ka-wab (Hetep-heres II). The smallest of the eight chambers, which contained, however, a red granite sarcophagus, was of type 4 and belonged to the wife of a prince (Ra-bauwf?). I would date the excavation of all these chambers, except the smallest, to the reign of Chephren.

The chambers of the shafts in the four south twin-mastabas vary considerably in type and size, and several have been altered greatly by later alterations in the Saite-Ptolemaic period. The date of the use of the individual shafts is uncertain, but probably all were finished and used after the reign of Cheops. Each mastaba contained two shafts in the north part only. I omit the eastern mastaba—

that of Prince Min-khaf—as that was undoubtedly finished in the reign of Chephren. The shafts in order of size are as follows:

		Chamber	Rock chamber		Remarks
		type	sq. m.	cu. m.	
(1) G 7130 B	5th twin-mastaba: man's shaft	4 a (1)	43.59	113.08	chief shaft, with 2 rooms
(2) G 7230 A	6th twin-mastaba: wife's shaft	3 al	21.6	64.8	second shaft
(3) G 7230 B	6th twin-mastaba: man's shaft	3 clx	18.92	61.49	chief shaft
(4) G 7330 B	7th twin-mastaba: man's shaft	3 bf	15.48	52.53	altered Ptol. cutting
(5) G 7330 A	7th twin-mastaba: wife's shaft	3 bf	7.2	13.68	second shaft unfin.

The sixth shaft is of the poor type 6:

(6) G 7130 A	5th twin-mastaba: unused?	6 b (2)	3.62	3.8	
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The large chamber in G 7130 B is in size a little larger than the mean size of the shafts in the north row. Four of the chambers of type 3 range from 50 to 64 cu. m. in capacity, large chambers, but not to be compared with those of the four north twin-mastabas. These include the chief shafts in 7230 and 7330, and the secondary shaft in 7230. The second shaft in 7330 is also of type 3 but of the capacity of only 13.68 cu. m., very small for the mastaba concerned. The chamber of type 6, in G 7130, is of unusually small size for a princess.

The next group of tombs, the capacities of which are to be considered, are those ascribed certainly to the reign of Chephren, which include the eighth twin-mastaba and the five massive cores first added to the Cem. G 7000. The large beautifully finished mastaba G 7510, probably the first of this group to be finished, had a lined chamber of type 2, and its rock-cut chamber had an estimated area of 21.36 sq. m. and a capacity of 74.76 cu. m. This size would group the chamber with the large early chambers but not with the very large chambers presented by the following mastabas. I give here the list of very large chambers of type 3:

		Chamber type	Rock chamber		Remarks
			sq. m.	cu. m.	
(1) G 7350 A	north shaft of 3	3 am	33.8	167.31	Hetep-heres II (?); reign of Shepseskaf (?)
(2) G 7430 A	8th twin-mastaba: chief shaft	3 am	42.0	136.42	2 rooms; gran. sarc.; Prince Min-khaf
(3) G 7650 C	southern of 3 shafts	3 afx	25.7	100.23	gran. sarc.; Merytyetes
(4) G 7450 A	north shaft	3 al	22.74	60.49	unfin. chief shaft
(5) G 7050 B	chief shaft	3 bm	17.95	38.59	reused in Ptol. period; Queen Nefert-kauw

The secondary shafts of type 3 in these mastabas are of lesser size than the chief shafts:

(6) G 7650 A	IV iv	chapel	3 amx	24.56	92.44	2nd shaft; Merytyetes
(7) G 7520 A	IV i		3 cm	24.56	88.41	rough-built stone sarc.

The remarkable sizes of the chambers of Queen Hetep-heres II (?) and Prince Min-khaf are to be compared with those of the chambers of type 3 in the eight nummulitic mastabas of the second addition, which include the tombs which I ascribe to the children of Prince Ka-wab and Hetep-heres II.

		Core type		Chamber type	Rock chamber		Remarks
					sq. m.	cu. m.	
(1)	G 7760 B	VI a	chapel	3 al	40.71	122.84	2 rooms; gran. sarc.; 'Prince' Min-dedef
(2)	G 7660 A	VI a	chapel	3 cl	27.28	105.85	wife of 'Prince' Ka-m-sekhem
(3)	G 7660 B	VI a	chapel	3 afx	32.22	81.45	2 rooms; gran. sarc.; 'Prince' Ka-m-sekhem.
(4)	G 7550 B	VI a	chapel	3 amx	24.32	80.82	'Prince' Duwa-ne-hor
(5)	G 7810 B	VI a	chapel	3 bf	19.78	63.29	Prince Zaty; excavated by T. Boulos
(6)	G 7820 B	VI a	chapel	3 af	16.4	47.56	Princess Nefert-kauw; excavated by T. Boulos
(7)	G 7810 A	VI a	chapel	3 afx	18.13	46.32	wife of Prince Zaty; excavated by T. Boulos
(8)	G 7750 A	VI a	chapel	3 bf	6.5	19.82	wife of . . .
(9)	G 7760 A	VI a	chapel	3 bfx	8.75	15.31	wife of 'Prince' Min-dedef
(10)	G 7750 B	VI a	chapel	3 am	6.86	12.35	'Prince' . . .; chief shaft

In these same mastabas are five chambers of type 4, and one of type 6:

(1)	G 7070	VI a	chapel	4 b (4) x	18.88	38.59	w. lst. sarc.; Sneferuw-khaf
(2)	G 7060 B	VI a	chapel	4 b (4) x	17.88	35.76	w. lst. sarc.; Prince Nefer-ma'at
(3)	G 7530 A	IV iv	r.c. chapel	4 b (1): W	15.4	28.79	gran. sarc.; Queen Meresankh III
(4)	G 7350 C	IV iii	chapel	4 b (1) unfin.	10.54	15.81	3rd shaft in mastaba on south
(5)	G 7820 A	VI a	chapel	4 b (1)	6.88	12.04	husband of Princess Nefert-kauw; excavated by T. Boulos
(6)	G 7550 A	VI a	chapel	6 b (2) unfin.	3.91	5.13	unused; wife of Duwa-ne-hor

The two largest of type 4 are the chambers of Prince Nefer-ma'at, son of Cheops, and his son Sneferuw-khaf. There was a period of probably 20-30 years separating the burials of father and son, although the similarities of the mastabas and the burial-chambers suggest that the interval between the finishing of the two chambers was not nearly so great. I would date the chambers to late in the reign of Chephren or early in the reign of Mycerinus. Both of these are chief shafts. The third in size, the tomb of Queen Meresankh III, is actually the only shaft in G 7530+40, prepared for Queen Hetep-heres II, as no burial-place was found in the mastaba. This chamber of type 4 is dated without much doubt to the first year of Shepseskha, and its small size is undoubtedly due to the haste with which the tomb was prepared (about 274 days). In the early denuded northern end of this mastaba, a 2-m. shaft, G 7520 A (No. 7, above), was of type 3 with a capacity of 88.41 cu. m. It is possible that this large shaft was excavated before the mastaba G 7530+40 was reconstructed. The remaining chambers of smaller size were in secondary shafts. The smallest of these chambers, the second shaft in the mastaba of Duwa-ne-hor, is of type 6 and appears to have been unused. Two shafts were not provided with chambers, G 7650 B and G 7350 B, both of type 7 x.

d. Conclusions drawn from the Comparison of the Sizes of Mastaba Chambers

This examination of the sizes of the burial-chambers in the nucleus cemeteries at Giza reveals the following facts:

- (a) The earliest burial-chambers finished in the Western Field had approximately a mean size of 10.23 sq. m. and 26.79 cu. m.: this mean is given by the measurements of eighteen chambers in mastabas of normal size and one chamber in a mastaba larger than normal size (G 2130): the other lined chambers in cores of the same groups vary in general around this mean size, a few smaller and a few larger.
- (b) The first abnormally large chambers are two examples of those of type 1 in the same groups: one with a capacity of 89.78 cu. m. is in the large mastaba G 4000, and the other of 46.51 cu. m. is in the large mastaba G 1201; the examples of lined chambers of type 1, which exceed by marked figures the mean size of such chambers, appear to be later than the two very large chambers.
- (c) Three of the lined chambers of type 2 in the Western Field follow the mean size laid down for the lined chambers of type 1, and the five unlined chambers were designed to have lined chambers of this size; one of the lined chambers in row 4 of Cem. G 4000 is abnormally large, 46.88 cu. m., and this belonged to the Princess Merytyetes.
- (d) There are two other chambers of type 2 which appear to belong to about the same period as the nine in Cem. G 4000; one of these, the lined chamber of G 7510 with a capacity of 45.88 cu. m., is in the great mastaba G 7510, dated to the early part of the reign of Chephren; its size is about the same as the two largest chambers of this type in Cem. G 4000; the other chamber of type 2 (with lining marked off in red lines but never built) is the mastaba G 2000 in the Western Field, larger even than G 7510; this mastaba is the largest in the nucleus cemeteries at Giza and its rock-cut chamber is also the largest (204.67 cu. m.); its lined chamber, if it had been finished, would have been much larger than any other lined chamber (136.26 cu. m.).
- (e) The lined chambers of type 1 I ascribe to the reign of Cheops; the chambers of type 2, partly lined and partly left unlined (unfinished), certainly follow the lined chambers of type 1 (except for one or two late examples); the unfinished condition of many chambers and mastabas of this group I attribute to their being unfinished at the death of Cheops; some of them were probably finished or used in the reign of Chephren; it is in this group that we find the extraordinarily large chamber of the great mastaba G 2000.
- (f) The chambers of type 3 in the four north twin-mastabas were probably designed to be lined; those chambers which were excavated in the reign of Cheops or in that of Radedef ranged in size from about 120 to about 80 cu. m., of which the three largest approach in size the rock-cut chamber of Prince Hemyuwen (G 4000) in the Western Field. The chambers present two sizes, a larger of about 120 cu. m. and a smaller size of about 85 cu. m.; the two-room apartment, in which the second smaller room was a coffin-room, appears first in this group of the larger size.
- (g) The chambers in the 5th-7th twin-mastabas of the south row range irregularly from 113 cu. m. down to 13 cu. m., as was to be expected for shafts made by the owners at their own expense after the reign of Cheops.
- (h) The chambers dated certainly to the reign of Chephren present no normal size, and range from 136 cu. m. downwards.

- (i) The chambers made late in the reign of Chephren or later present the same irregularities in size, and one of them, G 7350 A (Queen Hetep-heres II), has the exceptional capacity of 167·31 cu. m.; obviously these chambers were made by the owners, and the largest chambers probably belong to those persons who had the greatest means.

In conclusion, when the nucleus cemeteries were begun by Cheops his department of public works adopted a normal size both for the mastaba-cores and for the lined burial-chambers. As might be expected in the execution of such a scheme, certain persons of the highest rank and greater favour obtained both mastaba and chamber larger than the normal size. Conversely, others were obliged to be content with smaller chambers and a few with smaller mastabas. When the new type 2 with ramp or stair was introduced, the same normal size of chamber with the same variations continued to occur. Type 3 was introduced fortuitously under circumstances which prevented the lining of the chambers, and was actually planned as a development of type 1 and perhaps type 2 also, but of larger than normal size. The shafts in the four north twin-mastabas were apparently designed as one-room apartments, probably with a maximum size of about 90 cu. m., but a number of them were enlarged, three with the addition of a second coffin-chamber in one of which the second chamber was left unfinished (Prince Hordedef, Meresankh II, Prince Rabauwf (?), unfinished). The western mastaba in the southern row of twin-mastabas also had a two-roomed chamber.

The chambers which are certainly dated to the reign of Chephren and last in the Eastern Field present great variations from chamber to chamber and range in size up to 167·31 cu. m. (7350), and were apparently mostly executed by the owner from private means. Three of the chambers had again two-room apartments of which one was unfinished. The sizes of the chambers correspond obviously to the position and wealth of the owner.

e. The Burial-chambers in the Pyramids of Queens at Giza

The burial-shafts of the three small pyramids of queens east of the First Pyramid present variations of a common type, a long sloping passage, a small anteroom (N-S turning room), a second sloping passage leading down from the anteroom to the burial-chamber, and a lined burial-chamber. They show minor variations in form and present the following sizes:

- (1) G I-a: chief queen; see Fig. 63.

Chamber: lined, $2\cdot97 \times 3\cdot55$ m. and 2·49 m. high; E-W room: area, 10·54 sq. m.; capacity, 26·24 cu. m.; rock chamber, $4\cdot41 \times 5\cdot03$ m. and 2·79 m. high; E-W room: area, 22·18 sq. m.; capacity, 61·88 cu. m.; entered from east from anteroom by sloping passage, opening in north end of east wall; sloping passage in rock, $1\cdot4 \times 3\cdot15$ m., with a height (at right angles to slope) of 0·95 m.; with north side lined with masonry, reducing the width to 1·0 m.; the length to the inside of the lined room, 3·9 m.

Anteroom (turning room): $4\cdot25 \times 1\cdot75$ m. and 3·1 m. high; area, 7·44 sq. m.; capacity, 23·06 cu. m.; entered in east end of north wall at roof-level from horizontal passage, and from the floor of this passage a ramp leads down to the floor of the anteroom (cf. type 2); in south end of east wall a turning recess for introducing the coffin into the lower sloping passage.

Horizontal passage leading from end of upper sloping passage to north wall of anteroom, $2\cdot8 \times 1\cdot0$ m., and height of 1·2 m.

Sloping passage from face of pyramid; horizontal length as preserved, 16·55 m.; width, 1·0 m.; height at right angles to slope, 1·2 m.

Total area of burial-chamber and anteroom, 17·89 sq. m.; total capacity of two rooms, 49·30 cu. m.

(2) G I-b: second queen; see Fig. 64.

Chamber: lined chamber, 3.12×3.88 m. and 3.35 m. high; E-W chamber: area, 12.11 sq. m.; capacity, 40.57 cu. m.; rock chamber: 5.38×5.33 m., and 3.93 m. high; nearly square chamber; area, 28.68 sq. m.; capacity, 112.71 cu. m.; entered from east from anteroom by sloping passage opening near the south end of east wall: sloping passage in rock, 1.0×2.85 m.; and right-angled height of 1.15 m.; not lined; length to inside lined chamber, 3.65 m.: the sloping passage

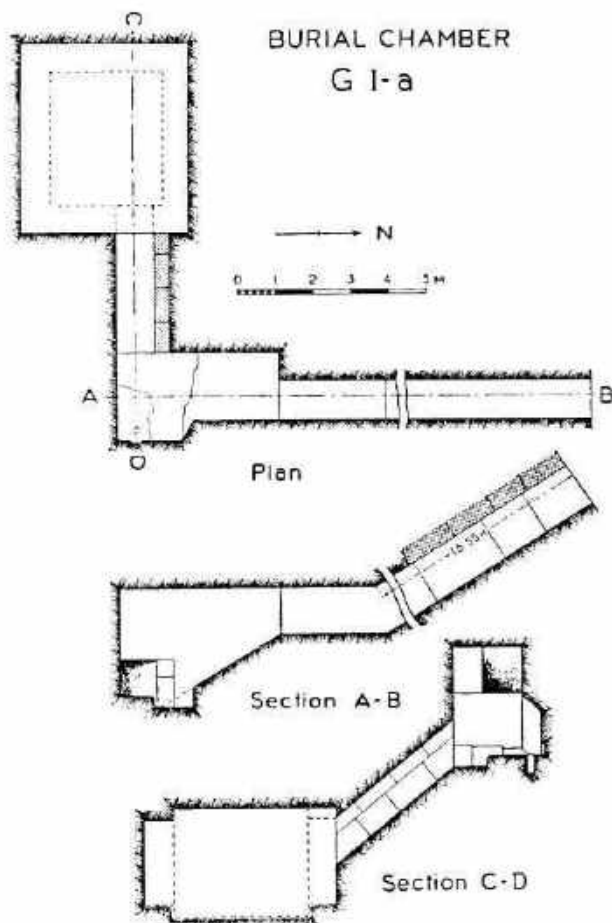


Fig. 63

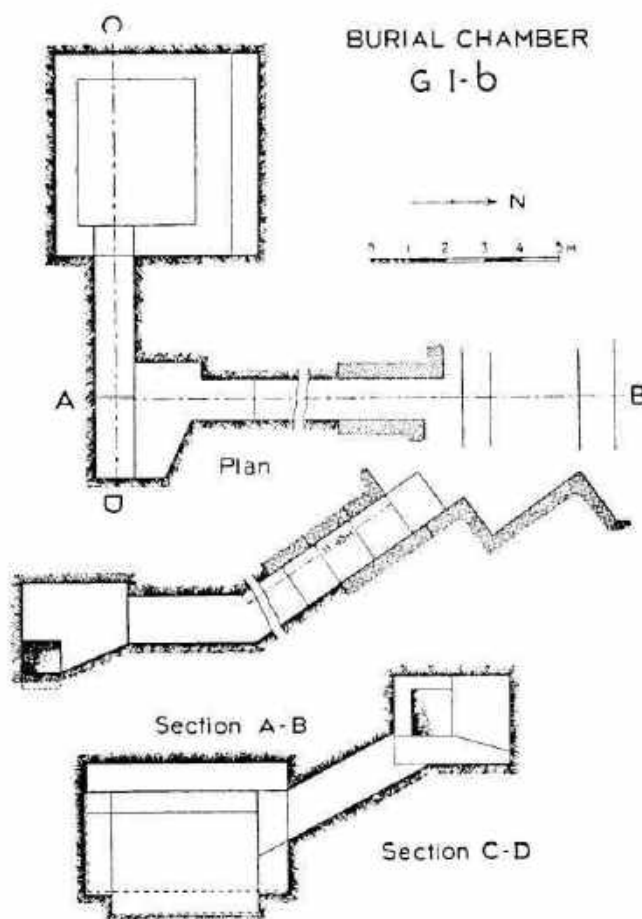


Fig. 64

opens in the floor of the anteroom at 0.92 m. east of the west wall of the anteroom, making a total horizontal length of 4.57 m.

Anteroom (turning room): NE corner not cut to a right angle, 2.77×3.05 m. and 2.9 m. high; area, c. 8.45 sq. m.; capacity, c. 24.5 cu. m.; entered in east end of north wall by horizontal corridor opening at floor-level.

Horizontal passage: connecting the sloping passage with the anteroom; 3.3×1.05 m. and 1.25 m. high.

Ramp: descending from floor of horizontal passage to floor of anteroom; takes the whole E-W width of the anteroom; 1.75×3.05 m. and vertical height of 0.77 m.

Upper sloping passage: horizontal length from face of pyramid, 15.95 m.; width, 1.05 m.; right-angled height, 1.2 m.

Total area of burial-chamber and anteroom, 20.56 sq. m.; total capacity of same, 65.07 cu. m.

(3) G I-c: pyramid of Queen Henutsen; see Fig. 65.

Chamber: lined chamber, 2.89×3.73 m., and 2.9 m. high; E-W chamber: area, 10.78 sq. m.; capacity, 31.26 cu. m.; rock chamber: 5.28×4.67 m., and 3.39 m. high; N-S chamber altered

to E-W in lining; area, 24.66 sq. m.; capacity, 83.61 cu. m.; entered from east by sloping passage opening in middle of east wall of lined chamber; rock-cut passage, 0.95×1.5 m., with height at right angles of 1.15 m.; length to inside of lined chamber, 2.0 m. not lined.

Anteroom (turning room): 3.35×2.6 m. and 2.2 m. high; area, 8.71 sq. m.; capacity, 19.16 cu. m.; entered by upper sloping passage 0.25 m. above floor of the anteroom, east of the middle of the north wall; this anteroom (after the introduction of the coffin) was converted into an L-shaped

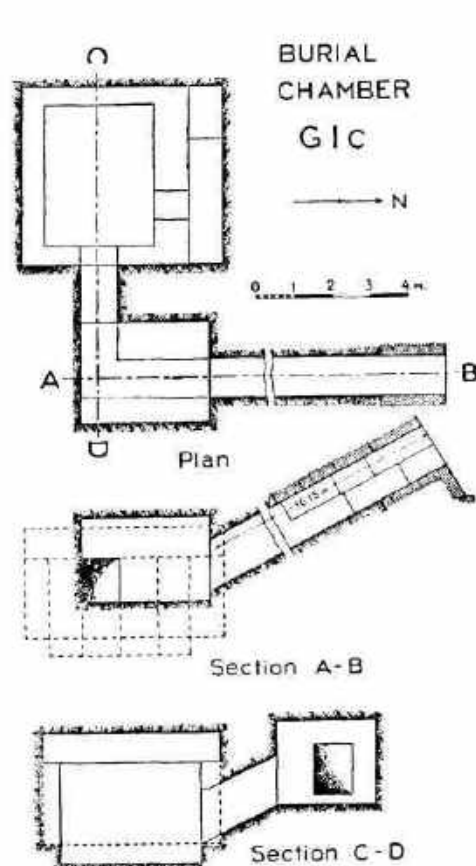


Fig. 65

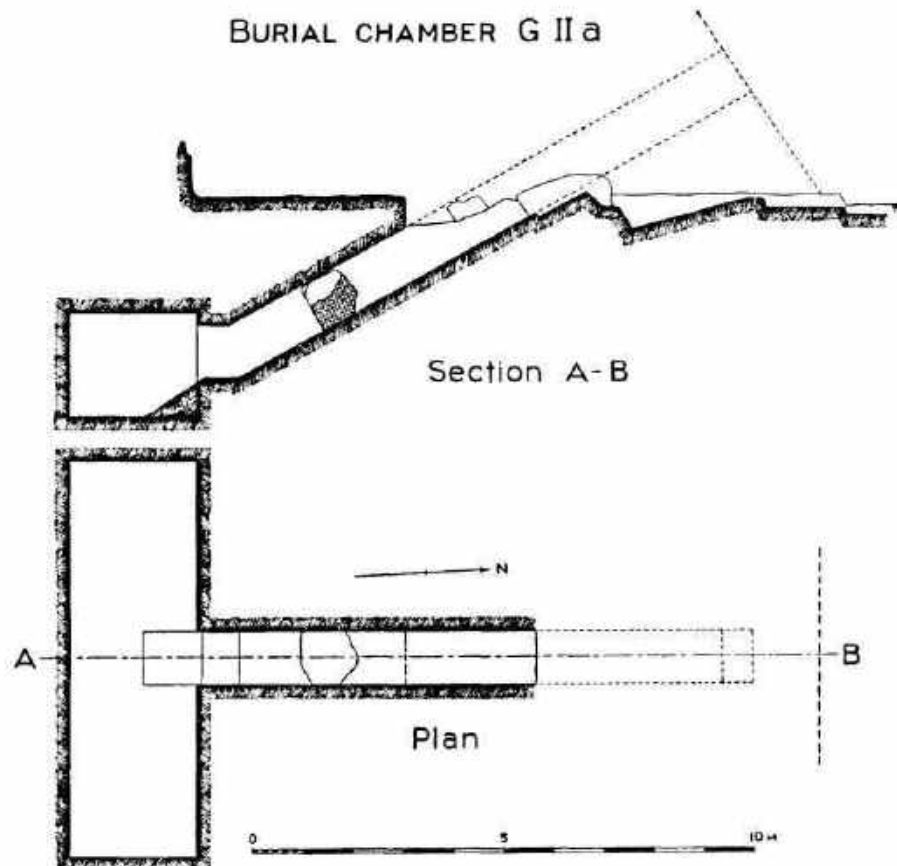


Fig. 66

corridor by casing built in the NW corner and along the east side: this L-shaped passage had a width 1.0 m. in the N-S arm and 0.95 in the E-W arm.

Upper sloping passage: horizontal length as preserved, 15.15 m.; width, 1.0 m.; right-angled height, 1.15 m.

Total area of burial-chamber and anteroom, 19.49 sq. m.; total capacity of same, 50.42 cu. m.

The chamber in the small pyramid G II-a is of very different form. The chamber is a long narrow E-W room with the sloping passage entering near the middle of the north side and is provided with a small ramp leading down from the floor of the passage to the floor of the chamber (as type 2). The measurements of the unlined chambers are as follows:

- (4) G II-a: queen buried with sealings of Chephren; see Hölscher, *Das Grabdenkmal des Königs Chephren*, p. 64, Pl. XIII.

Chamber: rock-cut, 2.5×6.8 m., and 2.05 m. high; E-W room: area, 17.00 sq. m.; capacity, 34.85 cu. m.; entered by short horizontal passage in middle of north wall; opening half-way between floor and roof; rock-cut ramp inside the chamber descending from floor of passage to floor of chamber (cf. shaft type 2).

Horizontal passage between sloping passage and ramp in chamber: length, 0.8 m.; width 1.0 m.; height, 1.0 m.

Sloping passage: destroyed above rock-surface; horizontal length to face of pyramid, 11.0 m.

The chambers of the three small pyramids south of G III vary in form and size. G III-a presents a general resemblance to G II-a, but lacks the ramp inside the chamber:

(5) G III-a: eastern pyramid: Queen Kha-merer-nebty II (?); see Fig. 67.

Chamber: unlined, 3.17×7.72 m., and 2.61 m. high; E-W room: area, 24.47 sq. m.; capacity, 63.86 cu. m.; entered by horizontal corridor, east of middle of north wall, opening at floor-level.

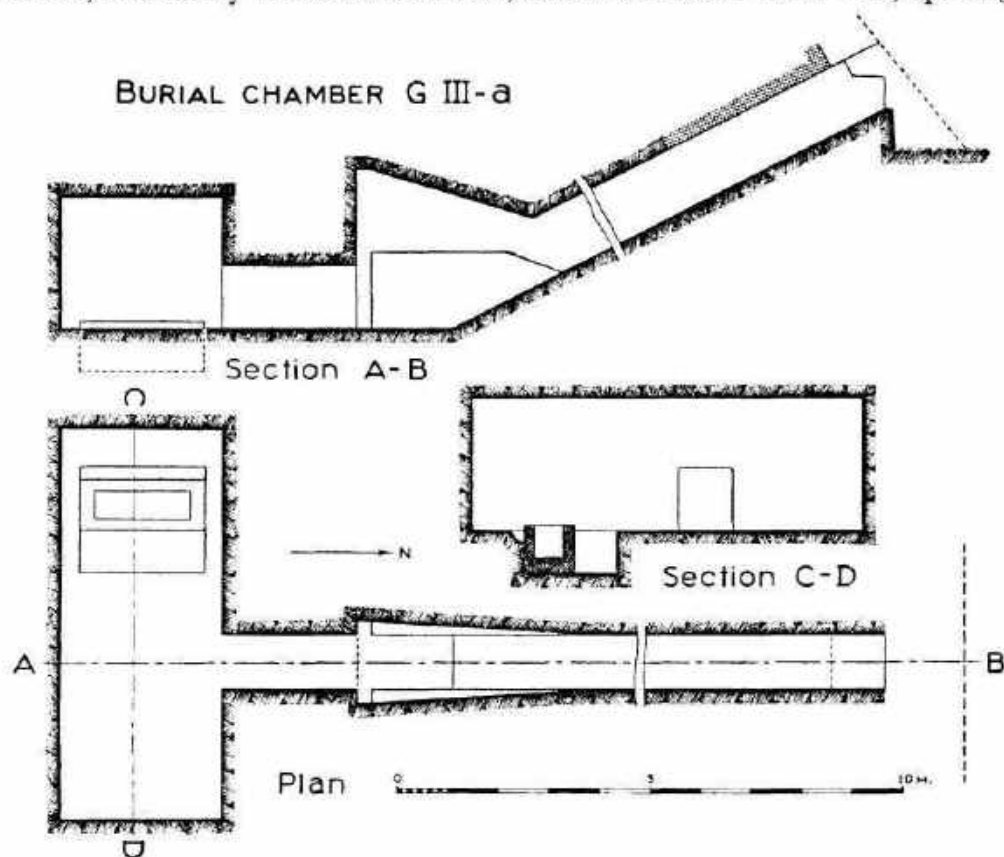


Fig. 67

Coffin-pit: near west end, 2.45×1.85 m., and 0.85 m. deep.

Granite coffin: in west side of coffin-pit; 2.45×0.99 m., and 0.95 m. high; cavity, 1.88×0.54 m., and 0.63 m. deep; flat lid fitted in the same manner as the granite coffin of Chephren; the coffin was probably packed with masonry built in the eastern side of the coffin-pit.

Horizontal passage; connecting portcullis corridor with the burial-chamber: 2.70 m. long, 1.06 m. wide, and 1.24 m. high; floor on a level with the floor of the portcullis corridor.

Portcullis corridor: entered at north end by sloping passage and the slope of the upper passage was continued by a ramp in the floor for 2.15 m., after which the floor ran horizontal to the horizontal corridor; in the upper part the width of the sloping passage and the horizontal passage was widened and heightened to contain the trap slabs (portcullis slabs) before they were dropped (see the drawing).

Sloping passage: horizontal length from portcullis corridor as far as preserved, 13.10 m.

The other chambers in G III-b and c present variations of the type with anteroom (turning room) found in G I-a, b, c, but have a larger anteroom and a N-S burial-chamber. G III-b had a lined burial-chamber, and G III-c was never finished.

(6) G III-b: second queen; see Fig. 68.

Chamber: lined chamber, 5.84×2.66 m., and 3.15 m. high; area, 15.53 sq. m.; capacity, 48.92 cu. m.; rock chamber: 7.05×3.9 m. and 3.75 m. high; area, 27.49 sq. m.; capacity, 103.08 cu. m.; entered by sloping passage from east from anteroom opening at floor-level in north end of east wall of chamber; length 1.95 m., width 0.90 m.; height at right angles of 1.05 m.; with one granite portcullis slab; against the west wall of chamber, near the middle, stood a granite sarcophagus.

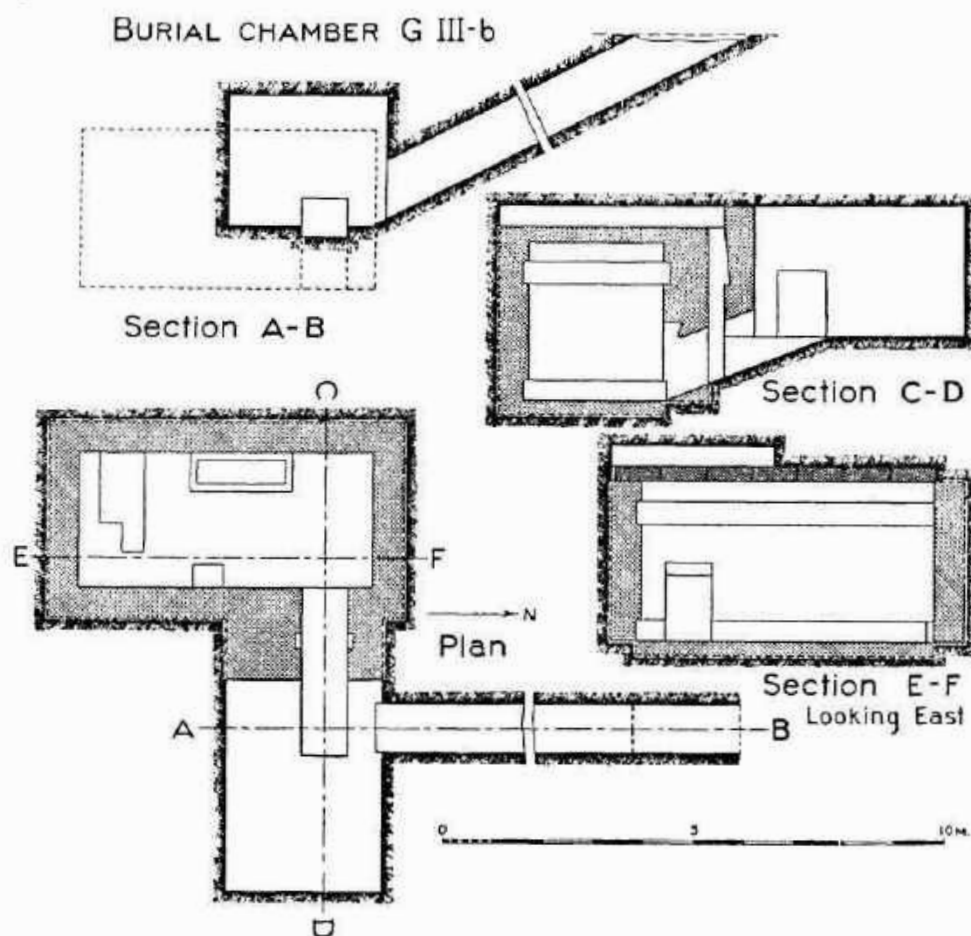


Fig. 68

Granite sarcophagus: 2.03×0.79 m. and 0.79 m. high; cavity, 1.78×0.46 m. and 0.6 m. deep; flat lid, 0.26 m. thick; fitted as granite coffin G III-a.

Anteroom (turning room): 3.12×4.19 m., and 2.61 m. high; area, 13.07 sq. m.; capacity, 34.11 cu. m.; entered by sloping passage in north wall near its west end, just above floor-level of anteroom; sized with white plaster.

Sloping passage: horizontal length from north wall of anteroom to the opening in surface of the rock, 9.90 m.

Total area, of chamber and anteroom, 28.60 sq. m.; total capacity of same, 83.03 cu. m.

(7) G III-c: pyramid of queen; see Fig. 69.

Chamber: rock-cut and unfinished; northern half not excavated to the designed floor-level, 7.92×3.45 m.; height as designed, 2.89 m.; N-S room: area, 27.32 sq. m.; capacity as designed, 78.95 cu. m.; unfinished; entered from east from anteroom by horizontal passage, length 2.10 m., width 1.0 m., and 1.20 m. high, level with floor of anteroom: enters burial chamber near south

end of east wall, slightly above floor-level: this indicated that the chamber was designed to be lined and paved.

Anteroom (turning room): 4.16×2.61 m., and 2.28 m. high; area, 10.86 sq. m.; capacity, 24.76 cu. m.; entered by sloping passage near east end of north wall, opening about in middle of height of wall.

Sloping passage: opens in rock north of north face of pyramid, which was unfinished; horizontal length from anteroom to rock opening, 15.54 m.

Total area of burial-chamber and anteroom, 38.18 sq. m.; capacity of same rooms, 103.6 cu. m.

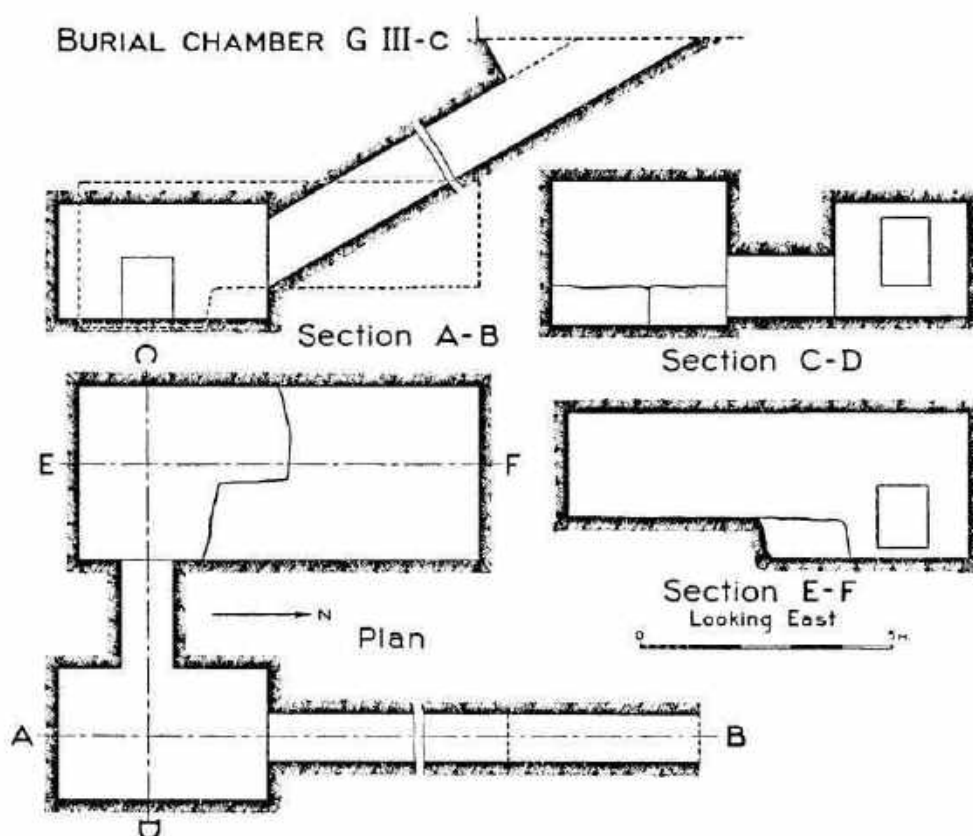


Fig. 69

All these seven chambers were undoubtedly made by the public works department of the king, three probably by Cheops, one certainly by Chephren, and three by Mycerinus, the last two finished perhaps by Shepseskaf. The method of constructing these pyramid chambers is shown clearly by the unfinished pyramid east of G I-a and by the visible structure around the opening of the shafts in all three. The facts show that the workmen began by cutting the sloping passage in the rock and constructing at the same time the sloping passage which finally ran out to the northern face of the pyramid. This formed a nucleus structure over and around which the core-work of the pyramid was afterwards constructed. I take it that the underground chambers and passage were excavated continuously from the beginning and were probably finished as soon as or before the completing of the pyramid itself. The only finished lined chamber at the Third Pyramid is that in G III-b, and the pyramid was never cased and had an unfinished stone temple completed in fact as a c.b. temple. The chamber in G III-c was never completely excavated and the pyramid was also uncased and had a c.b. chapel. Thus it may be concluded that most pyramid chambers were made by the king who built the pyramid and were finished about the same time as the pyramid, but that cases occur in which both pyramid and chamber were only partially finished on the death of the king. In these cases the finishing of the chamber and the pyramid was left to the decision of the succeeding king.

The three small pyramids G I-a, b, and c were clearly constructed in order from north to south by Cheops. It is to be noted that the burial-chamber of the first, G I-a, is a lined chamber of 10.54 sq. m. and 26.24 cu. m., a size which corresponds to the mean size of the mastaba-chambers of type 1. The second chamber, in G I-b, presents an area only about one-fifth larger than the normal size, but, by reason of the height of the room, a capacity 54.61 % larger than the mean normal size (12.11 sq. m. and 40.57 cu. m.). The chamber in G I-c has a floor area of normal size (10.78 sq. m.) and the capacity 31.26 cu. m., which is within the range of the variations of chambers of type 1 in the Western Field. The sizes connect these three chambers with the nineteen chambers of type 1 which gave the mean size of such chambers and with the ordinary larger variations from the normal size. The first chamber is of the normal height of mastaba-chambers of mean size, but the second and third are of greater height, and in this particular are to be associated with the early chambers of type 3. The rock-cut capacity of the first chamber, 61.88 cu. m., connects it with the chambers of type 1, as does also the size of the lined chamber. The second and third chambers in their rock-cut sizes are connected with the chambers of type 3 in the four north twin-mastabas, being 112.71 cu. m. and 83.61 cu. m. It seems reasonable to conclude that the three pyramid chambers form a connexion between the early chambers of type 1 in the Western Field and the chambers of type 3 in the four north twin-mastabas of the Eastern Field. All three pyramid substructures are of the same form (turning room and burial-chamber), presenting only minor variations, and were no doubt carried out by the same workmen in a practically continuous operation. It is to be noted that the anterooms were actually turning rooms for lowering the sarcophagus from the end of the sloping passage to a lower horizontal level, and for turning it at right angles to enter the lower sloping passage. While the burial-chamber of G I-a has the normal size of the mastaba-chambers of type 1, the turning room has a sloping ramp (same angle as sloping passage) which fills the northern part of the room and facilitated the descent of the sarcophagus. In other words, this burial-apartment presents the essential feature of the mastaba-chambers of type 2. In the burial-apartment of G I-b, the device is altered in that the ramp descending from the floor of the upper passage to the floor of the anteroom occupies the whole width of the anteroom. In G I-c the sloping passage enters the turning chamber near the floor and after the descent of the sarcophagus the turning room was converted into a plain horizontal passage connecting the upper and lower passage by means of well-dressed masonry. The relation between mastaba-chambers of type 2 and the burial-apartment of G I-a is, I believe, significant. The burial-apartment of the pyramid G I-a I would place about the years 15-17 of Cheops. It is plausible to assume that mastaba-chambers of type 2 were introduced after the making of this pyramid. If that conclusion be correct, then type 2 may well have been made in the later part of the reign of Cheops. I would as a matter of fact interpret the unfinished condition of the chamber linings and the mastaba casings in the mastabas of the 4th row and 7th line in Cem. 4000 to be due to the interruption caused by the death of Cheops. It may be taken as certain that all three of these pyramid substructures had contained a stone sarcophagus, either of white limestone or of granite, probably of limestone. All three had been re-used as communal burial-chambers in the Ptolemaic-Roman period, and it was no doubt during this re-use that the stone sarcophagi were broken up.

The chamber of the small pyramid G II-a presents a very different form to that of the three pyramids of Cheops. There is no anteroom and the sloping passage, ending with a short horizontal section, enters the long E-W chamber near the middle of the north wall. This form follows the form of the substructure of the pyramid of Radedef. G II-a has a very short and steep sloping ramp connecting the floor of the passage with the floor of the chamber. This feature resembles the old mastaba-type 2, but in a degenerate or rudimentary form which would place this chamber later than the well-developed type 2

of Cem. 4000. It is possible that there may have been an intention to line the chamber, but the width of the rock chamber, 2.5 m., would not have permitted the chamber as excavated ever to have been lined. The size of the rather low rock-cut chamber (2.05 m. high) shows a floor area of 17.0 sq. m. and a capacity of 34.85 cu. m., and this size is rather small in comparison with the chambers of type 3 in Cem. G 7000.

The first chamber, G III-a, south of the Third Pyramid, presents an elaboration of the form of G II-a. At the end of the sloping passage is a high portcullis room which in turn is connected with the burial-chamber by a horizontal passage entering at floor-level. The burial-chamber is a long E-W room 2.61 m. high with a floor area of 24.47 sq. m. and a capacity of 63.86 cu. m. In a coffin-pit in the floor at the west end is a granite sarcophagus. The room is noticeably larger than that of G II-a and was, I believe, intended for the chief queen of Mycerinus, whom I identify as Queen Kha-merer-nebti II (daughter of Chephren).

All the chambers down to this point have been E-W chambers, but the second and third chambers at the Third Pyramid are N-S chambers. Both revert to the form used in the three chambers at the First Pyramid, but with slight modifications. The second chamber, G III-b, has a larger E-W ante-room and is lined. The lined chamber is 15.53 sq. m. and 48.92 cu. m., while the rock-cut chamber is 27.49 sq. m. and 103.08 cu. m. This chamber must have been finished after that of G III-a. I surmise that it is the tomb of that queen of Mycerinus who was the mother of Shepseskaf, and that the chamber was actually finished by him. It is certain that he constructed the c.b. chapel of this pyramid. This fact would explain the large size and the lining of the burial-chamber.

The third and last chamber at the Third Pyramid is of a form similar to that of G I-b with its N-S chamber and its large anteroom. The anteroom is, however, a N-S room, and the passage between anteroom and burial-room is horizontal. Probably the burial-room was intended to be lined, but never having been completely excavated had been used in this state. Its c.b. chapel I ascribe to Shepseskaf. I believe, therefore, that this chamber was being excavated by Shepseskaf when the work ceased. The rock-cut burial-chamber if it had been finished would have had an area of 27.32 sq. m. and a capacity of 78.95 cu. m., nearly as large as G III-b. The last four pyramid chambers, G II-a, G III-a, b, and c, in their rock-cut sizes range from 34.85 cu. m. to 103.08 cu. m. While this range corresponds to that of the medium-sized mastaba-chambers in Cem. 7000 it is considerably less than the largest chambers of that cemetery. Six of these mastaba-chambers range from 167.31 cu. m. to 120.21 cu. m., of which four are in twin-mastabas, and the largest of all in the mastaba of Queen Hetep-heres II (?) (G 7350).

f. The Sizes of the Burial-chambers of Kings of Dyn. IV

Finally, the sizes of all burial-chambers are to be compared with the chambers of the pyramids of the kings of Dyn. IV:

- (1) Dahshur North Stone Pyramid: Sneferuw: type RT V: three rooms, anteroom, hall, built on emplacement in rock: burial-chamber built in core of pyramid: all rooms roofed with stone corbels:

	Area	Area	Height	Capacity	Height	Capacity
	m.	sq. m.	to roof	to roof	incl. roof	incl. roof
			m.	cu. m.	m.	cu. m.
Anteroom	8.24 × 3.63	29.91	3.56	106.48	12.3	237.19
Hall	8.32 × 3.63	30.2	3.56	107.51	12.3	239.49
Burial-room	4.15 × 8.32	34.53	3.67	126.72	14.66	316.29
Total		94.62		340.71		792.96
Total, hall and burial-room		64.71		234.23		555.77

(2) G I: lower rock-cut apartment unfinished.

(3) G I: second chamber; limestone with pent roof:

Area	Area	Height	Capacity	Height	Capacity
m.	sq. m.	to roof	to roof	incl. roof	incl. roof
		m.	cu. m.	m.	cu. m.
5.18 × 5.71	29.58	4.49	132.81	6.16	157.51

(4) G I: upper chamber; granite with flat roof:

5.21 × 10.44	54.39	5.82	316.55
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excluding portcullis room and grand gallery.

(5) Abu Roash: Radedef: open pit and trench cut in rock; type RT V; passage enters room near middle:

R. pit . . .	9.75 × 23.0	224.25	10 (?)	2,242.5 (?)	..	..
Room . . .	4.57 × 12.19	55.71	..	..	..	..

(6) G II: lower chamber: Chephren; rock-cut, with pent roof:

3.1 × 10.39	32.21	1.83	58.94	2.56	70.60
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(7) G II: Chephren: main chamber; rock-cut, with built pent roof:

4.93 × 14.07	69.36	5.87	409.14	6.83	442.43
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(8) G III: Mycerinus: first chamber: absorbed in second chamber and its passage filled solid with masonry set in plaster.

(9) G III: Mycerinus: final apartment: cut in rock: with N-S sarcophagus-room lined and roofed with granite: large hall with coffin-recess (alcove) and built sarcophagus-chamber, made later on west and lower down:

Hall . . .	3.83 × 10.51	40.25	4.82	194.0	..	..
Alcove . . .	3.83 × 3.27	12.52	3.5	43.82	..	..
Sarc.-room . . .	6.4 × 2.61	16.7	2.66	44.42	3.42	50.77
		69.47	..	282.24	..	288.59
Anteroom . . .	3.66 × 3.17	11.60	2.13	24.61	..	..
Magazines . . .		22.51	..	37.01	..	..
Sum total of all rooms		103.58	..	343.86	..	350.21

(10) Mastabat-el-Faraon: Shepseskaf (Jéquier, *Le Mastabat Faraoun*, p. 3, Pl. III); two connected E-W rooms, a hall entered by sloping passage, and burial-chamber west of hall both with built pent roof; type RT V; opening to SE a corridor with five lateral magazines (cf. G III):

Anteroom . . .	2.57 × 1.87	4.8	2.03	9.74	..	9.74
Hall . . .	3.1 × 7.12	22.07	3.43	75.70	4.83	91.15
Burial-room . . .	2.26 × 7.8	17.63	3.43	60.47	4.83	72.81
Total: 3 rooms		44.5	..	145.91	..	173.7

In comparing these chambers, I take the main rooms only, excluding the anteroom, the portcullis room, and the rock-cut magazines. Further, it is to be noted that many chambers are roofed with stone corbels or with leaning slabs (pent roof), and I take in these cases the capacity from floor to the lower edge of roof.

SUMMARY TABLE: showing sizes of king's burial-apartments:

King's name	Area	Capacity		Incl. anteroom		Total capacity
		to roof	incl. roof	area	capacity	incl. roof
		cu. m.	cu. m.	m.	cu. m.	cu. m.
Sneferuw . . .	64.71	234.23	555.77	94.62	340.71	792.96
Cheops (2): 1 room .	29.58	132.81	157.51	..	..	157.51
Cheops (3): 1 room .	54.39	316.55	316.55	..	..	316.55
Radedef: 1 room .	55.71	?	?	?	?	?
Chephren (1): 1 room.	32.21	58.94	70.6	..	..	70.6
Chephren (2): 1 room.	69.36	409.14	442.43	..	..	442.43
Mycerinus (2): 3 rooms	69.47	282.24	288.59	103.58	350.20	350.2
Shepseskaf: 2 rooms .	39.7	136.17	163.96	44.5	145.91	173.7

The plans of all three of the Giza pyramids had been altered during construction so that the First Pyramid presents three sizes while the Second and Third Pyramids present two sizes each. In each case the burial-apartment was increased in size with each increase in the size of the pyramid. At the First Pyramid, the first apartment, rock-cut, was left unfinished, but the third increased in size over the second, from 29.58 sq. m. to 54.39 sq. m. and from 132.81 cu. m. to 316.55 cu. m. At the Second Pyramid the increase was from 32.21 sq. m. to 69.36 sq. m. and from 58.94 cu. m. to 409.14 cu. m. At the Third Pyramid the first chamber cannot be measured exactly, but the second was obviously considerably larger. These increases are in general accord with the fact that the largest mastabas contain as a rule the largest burial-chambers. The burial-apartments, if we exclude anterooms, &c., consist of two rooms (hall and sarcophagus-chamber) in the pyramid of Sneferuw, one burial-chamber in the final form of G I and G II, three rooms in G III, and two rooms in the Mastabat el-Faraon. Taking the floor areas of these apartments, there is little variation from Sneferuw to Mycerinus, and only a small decrease in the tomb of Shepseskaf, ranging from 54.39 sq. m. for Cheops to 69.47 sq. m. for Mycerinus. Shepseskaf has 39.7 sq. m. The differences in the heights of the chambers produce greater variation in capacities, increasing from 234.23 cu. m. for Sneferuw to 409.14 cu. m. for Chephren; from that point the capacity decreases to 282.24 cu. m. for Mycerinus and 136.17 cu. m. for Shepseskaf.

The actual burial-chamber is an E-W room in all these royal burial-apartments except in G III. There the lined and roofed burial-chamber was clearly an addition to the original plan, which provided a burial-alcove (coffin-recess) in the western end of the great E-W hall. It is to be remembered that the burial-chambers in the queens' pyramids at Giza were E-W rooms except for the last two, G III-b and c. These two had N-S burial-rooms like the final form of G III itself.

The form of burial-apartments of the queens' pyramids at the First Pyramid is not found in the apartments of the kings. Its peculiarity is that there are two rooms, an anteroom and a burial-chamber. The anteroom serves to change the direction of the sloping passage so that the lower passage runs down from east to west and enters the E-W burial-chamber from the east. Nevertheless, the use of a N-S anteroom in older pyramids is well established and the anteroom in these small pyramids facilitated the turning of the sarcophagus in its descent from the N-S sloping passage into the E-W chamber. This form was changed after the reversion to the open-pit and trench type in the burial-apartment of Radedef at Abu Roash. The following burial-apartments of queens at Giza, G II-a and G III-a, cut in the rock, have a long E-W room with the sloping passage entering near the middle (or just east of

the middle). In the last two queens' pyramids, G III-b and c, the anteroom was again used with a N-S burial-chamber, following the example set by G III itself.

The use of a separate chamber for the burial (sarcophagus) is found in the North Stone Pyramid at Dahshur and was obviously designed for the first apartment, cut in the rock, of the Cheops pyramid. The apparent two-room form of substructures of the small pyramids at the First Pyramid is not actually a two-room apartment, as the anteroom was designed for turning the sarcophagus in its descent. The main chamber is the burial-chamber. The apartments made for Radedef and Chephren were also one-room apartments except for the use of portcullis rooms. The first distinctly two-room apartment was the final form of burial-apartment of the Third Pyramid. Nevertheless, it is clear that the separate burial-chamber had already been introduced in the large royal mastabas of the Eastern Field in seven separate shafts. Two of these two-room apartments had not been completed. The persons for whom such apartments were made or designed were Prince Hordedef (G 7220 A), Queen Meresankh II (G 7410 B), Prince Khufuw-khaf (G 7130 B), Prince Min-khaf (G 7430 A), the wife of Prince Min-khaf (G 7430 B), 'Prince' Min-dedef (G 7760), and 'Prince' Ka-m-sekhem (G 7660). I ascribe five of these chambers to a period previous to the reign of Mycerinus and the other two, designed for grandsons of Cheops, to the latter part of the reign of Chephren or to the early part of the reign of Mycerinus. The burial-shafts of Queen Hetep-heres II (?) (G 7350 A) and Queen Meresankh III (G 7530 A), which were made in the reign of Shepseskaf, had one-room apartments. It appears that the use of a separate burial-room is an old feature which reappears by the arbitrary choice of owners and was adopted for part of the family of Cheops, including his grandson, Mycerinus. Later the separate burial-chamber appears in a number of the sloping-passage tombs of type 9, either behind or under the main chamber.

3. SUMMARY OF SHAFT TYPES IN THE FIRST FOUR NUCLEUS CEMETERIES

In order to compare the distribution of the shaft types among the four nucleus cemeteries, G 4000, G 2100, G 1200, and G 7000, the following table has been prepared:

In Cemetery		Number of shafts of type								Total
		1	2	3	4	5	6	7 x		
G 4000 (22 early)	. .	12	9	1	..	..	..	..	22 shafts (first 22)
G 4000 (9 foll.)	. .	..	..	2	4	1	1	1	9 shafts (later)
G 4000 (row 1-2)	. .	..	..	..	5	2	4	0	11 shafts in 11 mastabas
Total G 4000	. .	12	9	3	9	3	5	1	42 shafts in 42 mastabas	
G 2100 (5 first)	. .	4	..	..	1	..	..	..	5 shafts in 5 mastabas
G 2100 (6 later)	. .	1	..	1	3	0	1	..	6 chief shafts	
Total G 2100	. .	5	..	1	4	0	1	..	11 shafts	
G 1200 (all)	. .	10	..	..	..	..	..	..	10 shafts in 10 mastabas
G 1200 (annex)	. .	..	..	2	..	1	1	..	4 chief shafts
Total G 1200	. .	10	..	2	..	1	1	..	14 shafts	
G 2000	. .	..	1	..	..	..	..	..	1 shaft
G 7000 (5 fin.)	. .	..	..	7	2	..	1	..	10 in 5 2-shaft mastabas
G 7000 b	. .	..	..	4	..	..	..	..	4 in 2 2-shaft mastabas
G 7000 (7 Chephren)	. .	..	1	7	3	..	..	3	14 shafts in 7 mastabas
G 7000 (mastaba VI)	. .	..	..	10	3	..	1	..	14 shafts in 8 mastabas
Total G 7000	. .	..	1	28	8	..	2	3	42 shafts

SUM TOTALS:

SUM TOTALS:

			Number of shafts of type							
			1	2	3	4	5	6	7 x	
Cem. G 4000	.	.	12	9	3	6	6	5	1	42 shafts in 42 mastabas
Cem. G 2100	.	.	5	..	1	4	..	1	..	11 shafts in 11 mastabas
Cem. G 1200	.	.	10	..	2	..	1	1	..	14 shafts in 14 mastabas
G 2000	.	.	..	1	..	..	..	..	..	1 shaft
Total Western Field	.	.	27	10	6	10	7	7	1	68 shafts: 64 in 64 nucleus mastabas, and 4 annexes
Eastern Field	.	.	..	1	28	8	..	2	3	42 shafts: 22 mastabas, 8 twin, 14 2-shafts
Sum total	.	.	27	11	34	18	7	9	4	110 shafts: 86 mastabas + 4 annexes

SUMMARY TABLE: sizes of chambers of different types:

Chamber		Number of shafts in order of capacity in cu. m.					Total
		100+	50-99	20-49	10-19	0-9	
Type 1:							
1: G 4000	.	.	1	10	1	..	12 chambers
1: G 2100	.	.	..	5	..	..	5 chambers
1: G 1200	.	.	..	8	2	..	10 chambers
Total type 1	.	..	1	23	3	..	27 chambers
Type 2:							
2: G 4000	.	.	2	7	..	..	9 chambers
2: G 2000	.	1	..	..	..	..	1 chamber
2: G 7510	.	..	..	1	..	..	1 chamber
Total type 2	.	1	2	8	..	..	11 chambers
Type 3:							
3: G 4000	.	..	..	2	1	..	3 chambers
3: G 2100	.	..	..	..	..	1	1 chamber
3: G 1200 annex	.	..	..	..	..	2	2 chambers
Total Western Field	..	..	2	1	3		6 chambers
3: G 7000	.	8	14	3	4	..	29 chambers
Total type 3	.	8	14	5	5	3	35 chambers
Type 4:							
4: G 4000 later	.	..	..	2	3	1	6 chambers
4: G 2100 later	.	..	..	3	1	..	4 chambers
Total Western Field	..	..	5	4	1		10 chambers
4: G 7000	.	1	1	5	3	1	11 chambers
Total type 4	.	1	1	10	7	2	21 chambers
Type 5:							
5: G 4000 later	.	..	..	..	1	5	6 chambers
5: G 2100	.	..	..	..	..	..	..
5: G 2100 annex	.	..	..	..	..	1	1 chamber
Total Western Field	..	..	..	1	6		7 chambers

Cem. G 7000: none of type 5 in the early mastabas in Dyn. IV.

SUM TOTALS:

			Number of shafts of type							7 x	
			1	2	3	4	5	6			
Cem. G 4000	.	.	12	9	3	6	6	5	1		42 shafts in 42 mastabas
Cem. G 2100	.	.	5	..	1	4	..	1	..		11 shafts in 11 mastabas
Cem. G 1200	.	.	10	..	2	..	1	1	..		14 shafts in 14 mastabas
G 2000	.	.	..	1	..	..	..	..	..		1 shaft
Total Western Field	.		27	10	6	10	7	7	1		68 shafts: 64 in 64 nucleus mastabas, and 4 annexes
Eastern Field	.	.	..	1	28	8	..	2	3		42 shafts: 22 mastabas, 8 twin, 14 2-shafts
Sum total	.	.	27	11	34	18	7	9	4		110 shafts: 86 mastabas + 4 annexes

SUMMARY TABLE: sizes of chambers of different types:

Chamber		Number of shafts in order of capacity in cu. m.					Total
		100+	50-99	20-49	10-19	0-9	
Type 1:							
1: G 4000	.	.	1	10	1	..	12 chambers
1: G 2100	.	.	..	5	..	..	5 chambers
1: G 1200	.	.	..	8	2	..	10 chambers
Total type 1	.	..	1	23	3	..	27 chambers
Type 2:							
2: G 4000	.	.	2	7	..	..	9 chambers
2: G 2000	.	1	..	..	..	..	1 chamber
2: G 7510	.	..	..	1	..	..	1 chamber
Total type 2	.	1	2	8	..	..	11 chambers
Type 3:							
3: G 4000	.	..	..	2	1	..	3 chambers
3: G 2100	.	..	..	..	..	1	1 chamber
3: G 1200 annex	.	..	..	..	..	2	2 chambers
Total Western Field	..	..	2	1	3		6 chambers
3: G 7000	.	8	14	3	4	..	29 chambers
Total type 3	.	8	14	5	5	3	35 chambers
Type 4:							
4: G 4000 later	.	..	..	2	3	1	6 chambers
4: G 2100 later	.	..	..	3	1	..	4 chambers
Total Western Field	..	..	5	4	1		10 chambers
4: G 7000	.	1	1	5	3	1	11 chambers
Total type 4	.	1	1	10	7	2	21 chambers
Type 5:							
5: G 4000 later	.	..	..	..	1	5	6 chambers
5: G 2100	.	..	..	..	..	..	..
5: G 2100 annex	.	..	..	..	..	1	1 chamber
Total Western Field	..	..	..	1	6		7 chambers

Cem. G 7000: none of type 5 in the early mastabas in Dyn. IV.

Chamber	Number of shafts in order of capacity in cu. m.					Total
	100+	50-99	20-49	10-19	0-9	
Type 6:						
6: G 4000 later	5	5 chambers
6: G 2100 later	1	1 chamber
6: G 1200 annex	1	1 chamber
6: G 7000 later	2	2 chambers
Total type 6	9	9 chambers

SUMMARY OF ABOVE TABLE:

	100+	50-99	20-49	10-19	0-9	Total
Type 1 . . . .	..	1	23	3	..	27 chambers
Type 2	1	2	8	..	..	11 chambers
Type 3	8	14	5	5	3	35 chambers
Type 4	1	1	10	7	2	21 chambers
Type 5 . . . .	..	..	..	1	6	7 chambers
Type 6 . . . .	..	..	..	..	9	9 chambers
Total chambers . .	10	18	46	16	20	110 chambers
Type 7 x . . . .	..	..	..	..	..	4 chambers
						114 chambers

Summary of the Western Field:

Type 1 . . . .	..	1	23	3	..	27 chambers; 27 mastabas
Type 2	1	2	7	..	..	10 chambers; 10 mastabas
Type 3 . . . .	..	..	2	1	3	6 chambers; 6 mastabas
Type 4 . . . .	..	..	5	4	1	10 chambers; 4 mastabas
Type 5 . . . .	..	..	..	1	6	7 chambers
Type 6 . . . .	..	..	..	..	7	7 chambers
Total Western Field	1	3	37	9	17	67 chambers
Type 7 x . . . .	..	..	..	..	..	1 chamber
						68 chambers

Summary of the Eastern Field:

Type 1 . . . .	..	..	..	..	..	..
Type 2 . . . .	..	..	1	..	..	1 chamber
Type 3	8	14	3	4	..	29 chambers
Type 4	1	1	5	3	1	11 chambers
Type 5 . . . .	..	..	..	..	..	..
Type 6 . . . .	..	..	..	..	2	2 chambers
Total Eastern Field.	9	15	9	7	3	43 chambers
Type 7 x . . . .	..	..	..	..	..	3 chambers
						46 chambers

Sum total all types:

Total Western Field . .	1	3	37	9	17	67 chambers
Total Eastern Field . .	9	15	9	7	3	43 chambers
Sum total	10	18	46	16	20	110 chambers
Type 7 x . . . .	..	..	..	..	..	4 chambers
						114 chambers

It is perfectly obvious that the early mastabas of the nucleus cemeteries of the Western Field are dominated by shafts of types 1 and 2 with lined chambers (5 exceptions). The cemetery of the Eastern Field consisted of mastabas with a great preponderance of type 3, which included all the large chambers.

4. DISTRIBUTION OF SHAFT TYPES IN THE CEM. EN ÉCHELON

The Cem. en Échelon contains twenty-five mastabas originally cores of type II a, but a number were altered by later construction or reconstruction. Most of these are two-shaft mastabas. Ten of these mastabas were excavated by Professor Junker, and the descriptions of the shafts are at present available for only one of these mastabas. The present exposition is therefore confined to the fifteen mastabas excavated by the Harvard-Boston Expedition and the one published mastaba excavated by Junker.

(a) The Western Line: Nos. 4910-4990:

	Core	Mastaba	Shaft	sq. m.	cu. m.	
(1) G 4910 A	II a	X	6 a (2)	0.6	0.48	
B	II a	X	3 cr	4.62	7.85	
(2) G 4920 A	II a	VI a	6 c (1) (W)	1.06	0.74	2-m. shaft
B	II a	VI a	4 b (2)	4.49	6.73	small r.c. shaft in 2-m. shaft
(3) G 4930 A	II a	VII e (2)	6 b	1.32	1.12	small r.c. shaft
B	II a	VII e (2)	4 b (1)	6.72	9.07	small r.c. shaft
(4) G 4940 A (1)	II a	VII a	3 ar	6.82	11.95	2 chambers in 2-m. shaft
A (2)	II a	VII a	3 bf	7.5	12.75	lower chamber
			(unfin.)			
B	II a	VII a	3 crx	17.22	40.46	chief shaft

(5)-(8) G 4950-4980: excavated by Professor Junker: G 4950, shafts A, B: G 4960, shafts A, B: G 4970, shaft A: G 4980, shafts A, B.

(9) G 4990 A II a uncased 6 b (1) 2.36 2.95 sole shaft

(b) Middle Line:

(10) G 5010 A	II a	VI a (2)	6 b (2)	3.13	5.63	small r.c. shaft
B	II a	VI a (2)	6 a (2)	2.36	3.06	small r.c. shaft
(11) G 5020 A	II a	uncased	6 a (2)	2.86	3.41	contracted r.c. shaft
B	II a	uncased	6 b (1)	1.67	1.88	contracted r.c. shaft
(12) G 5030 A	II a	VII c	6 b (2)	1.85	1.85	contracted r.c. shaft
B	II a	VII c	4 b (2)	4.48	7.39	contracted r.c. shaft
(13) G 5040 A	II a	uncased	6 c (1)	1.0	1.0	contracted r.c. shaft
B	II a	uncased	5 c (2)	1.21	1.02	small r.c. shaft
(14)-(16) G 5050-5070:	excavated by Professor Junker: G 5050, shafts A, B: G 5060, shaft A: B 5070, shafts A, B.					
(17) G 5080 A	II a	VI x	4 b (2)	13.11	24.9	N: small r.c. shaft
B	II a	VI x	3 af	22.0	45.1	S: 2 sarc.
C	II a	VI x	5 a (2)	3.12	3.9	intrusive shaft 1.0 x 1.05 m.
(18) G 5090 A	II a	unfin.	6 a (2)	1.17	1.17	small r.c. shaft
B	II a	unfin.	6 a (2)	2.66	2.92	small r.c. shaft at 1.5 m. in shaft

	Core	Mastaba	Shaft	sq. m.	cu. m.	
(c) Eastern Line:						
(19) G 5130 A	II a	uncased	3 ar	6.37	10.19	contracted 2-m. shaft
B	II a	uncased	7 x	..	..	1.75 m. in r.
(20) G 5140 A	II a	X	6 b (2)	2.63	3.28	small r.c. shaft
B	II a	X	4 b (2)	7.32	15.14	contracted 2-m. shaft
(21) G 5150 A	II a	VII a	3 ar	8.87	18.18	contracted shaft
B	II a	VII a	?	?	?	record lost
C	II a	VII a	6 c (1)	1.47	1.47	empty; 1.4 × 1.4 m.
D	II a	VII a	6 b (1)	3.3	4.29	1.4 × 1.4 m.
(22)–(23) G 5160–5170: excavated by Professor Junker: both apparently with one shaft.						
(24) G 5180 A	II a	uncased	7 x	..	..	1.05 m. in rock
B	II a	uncased	4 b (2)	4.82	7.23	contracts
(25) G 5190 A	II a	uncased	5 a (2)	3.68	5.88	small shaft in large
B	II a	uncased	4 b (2)	5.62	6.74	contract; Myc. sealing

The following types occur:

Type 3: 7 examples: G 4910 A (2); 4940 A (1); 4940 A (2); 4940 B; 5080 B; 5130 A; and 5150 A, in 5 mastabas.

Type 4: 7 examples: G 4920 B; 4930 B; 5030 B; 5080 A; 5140 B; 5180 B; 5190 B; in 7 mastabas: all are chief shafts except that in G 5080 A, which is secondary to type 3.

Type 5: 3 examples: G 5040 B (chief); 5080 C (third shaft); 5190 A (secondary to type 4); 3 shafts in 3 mastabas: only one (G 5040 B) is a chief shaft.

Type 6: 14 examples: G 4910 A (secondary to type 3); 4930 A (secondary to type 4); 4990 A (sole shaft); 5010 A (chief shaft); 5010 B (secondary to type 6); 5020 A (chief shaft); 5020 B (secondary to type 6); 5030 A (secondary to type 4); 5040 A (secondary to type 5); 5090 A (secondary to type 6); 5090 B (chief shaft); 5140 A (secondary to type 4); 5150 C (secondary to type 3); 5150 D (secondary to type 3): 14 shafts in 10 mastabas: 4 chief shafts and 10 secondary: 3 secondary to type 3; 3 secondary to type 4; 1 secondary to type 5; 3 secondary to type 6.

Type 7 x: 2 examples: G 5130 B (secondary to type 3); 5180 A (secondary to type 4).

Total number of shafts, 33 in sixteen mastabas.

Arranged according to cubic capacity these chambers fall into the following order:

	Core	Mastaba	Shaft	sq. m.	cu. m.	
(17) G 5080 B	II a	VI x	3 af	22.0	45.1	2 stone coffins; seal of Shepseskaf
(4) G 4940 B	II a	VII a	3 crx	17.22	40.46	
(17) G 5080 A (1)	II a	VI x	4 b (2)	13.11	24.9	secondary to type 3
(21) G 5150 A	II a	VII a	3 ar	8.87	18.18	chief shaft unreported
(20) G 5140 B	II a	..	4 b (A)	7.32	15.14	
(4) G 4940 A (2)	II a	VII a	3 bf	7.5	12.75	chief shaft
(4) G 4940 A (1)	II a	..	3 ar	6.82	11.59	
(19) G 5130 A	II a	..	3 ar	6.37	10.19	
(3) G 4930 B	II a	..	4 b (1)	6.72	9.07	

	Core	Mastaba	Shaft	sq. m.	cu. m.	
(1) G 4910 B	II a	..	3 cr	4.62	7.85	
(12) G 5030 B	II a	..	4 b (2)	4.48	7.39	
(24) G 5180 B	II a	..	4 b (2)	4.82	7.23	
(25) G 5190 B	II a	..	4 b (2)	5.62	6.74	sealing Mycerinus
(2) G 4920 B	II a	VIII a	4 b (2)	4.49	6.73	
(25) G 5190 A	II a	..	5 a (2)	3.68	5.88	
(10) G 5010 A	II a	..	6 b (2)	3.13	5.63	
(21) G 5150 D	II a	..	6 b (1)	3.3	4.29	secondary to type 3
(17) G 5080 C	II a	VI x	5 a (2)	3.12	3.9	
(20) G 5140 A	II a	..	6 b (2)	2.63	3.28	
(11) G 5020 A	II a	..	6 a (2)	2.87	3.14	
(10) G 5010 B	II a	..	6 a (2)	2.63	3.06	
(9) G 4990 A	II a	..	6 b (1)	2.36	2.95	
(18) G 5090 B	II a	..	6 a (2)	2.66	2.92	
(11) G 5020 B	II a	..	6 b (1)	1.67	1.88	
(12) G 5030 A	II a	..	6 b (2)	1.85	1.85	
(21) G 5150 C	II a	..	6 c (1)	1.47	1.47	secondary to type 3
(18) G 5090 A	II a	..	6 a (2)	1.17	1.17	
(3) G 4930 A	II a	..	6 b	1.32	1.12	
(13) G 5040 B	II a	..	5 c (2)	1.21	1.02	
(13) G 5040 A	II a	..	6 c (1)	1.0	1.0	
(1) G 4910 A	II a	..	6 a (2?)	0.6	0.48	

Only three of these have a cubic capacity of between 20 and 50 cu. m., but these are comparable in size with the more expensive chambers of type 1 in the nucleus cemeteries farther west. The two largest are of type 3 and are the chief chambers in the mastabas in which they occur. The third is of type 4, but is secondary to the largest chamber in this list.

There are five chambers with areas between 10 and 20 cu. m., four of type 3, and one of type 4. Two of those of type 3 are chief shafts and the two others were secondary to a shaft of type 3. The single chamber of type 4 was also a chief shaft (G 5140 B).

Eight chambers presented a cubic capacity of between 5.0 and 10 cu. m. One was of type 3, five of type 4, one of type 5, and one of type 6.

1 of type 3: chief shaft (G 4910 B).

5 of type 4: all chief shafts: G 4930 B, 5030 B, 5180 B, 5190 B, 4920 B.

1 of type 5: G 5190 A, secondary to shaft of type 4.

1 of type 6: G 5010 A, secondary to shaft of type 6.

Fifteen chambers had capacities of less than 5 cu. m.:

2 of type 5: G 5040 B (chief shaft), G 5080 C (secondary to types 3 and 4).

13 of type 6: 4 chief shafts: G 4990 A, 5010 B, 5020 B, 5090 B.

3 secondary to type 3 (G 4910 A, 5150 D, 5150 C).

3 secondary to type 4 (G 4930 A, 5030 A, 5140 A).

1 secondary to type 5 (G 5040 A).

2 secondary to type 6 (G 5020 A, 5090 A).

The mastabas in this cemetery are mostly two-shaft mastabas, a form which came into use in the reign of Chephren. The type 3 was introduced in the end of the reign of Cheops and ranged down to Dyn. V, but no definite conclusions can be drawn from the occurrences of types 4-6, which range through all reigns from Chephren to the end of Dyn. V. The occurrence of these types in Cem. en Echelon is shown by the following tables:

(a) Chief shafts only:

							Cubic capacities (cu. m.) of				Total
							20-49	10-19	5-9	0-5	
Type 3	.	.	.	.	.	.	2	2	1	..	5 chambers
Type 4	.	.	.	.	.	.	..	1	5	..	6 chambers
Type 5	.	.	.	.	.	.	..	..	..	1	1 chamber
Type 6	.	.	.	.	.	.	..	..	..	4	4 chambers
Total chief shafts	.	.	.	.	.	.	2	3	6	5	16 chambers

(b) Secondary shafts:

Type 3 (secondary to type 3)	.	.	..	2	..	..	2 chambers
Type 4 (secondary to type 3)	.	.	1	..	..	..	1 chamber
Type 5 (secondary to types 3 and 4)	.	..	..	..	1	1	2 chambers
Type 6 (secondary to types 3 and 6)	.	..	..	..	1	9	10 chambers
(2 secondary to type 3; 3 secondary to type 4; 1 secondary to type 5; 3 secondary to type 6)							
Total secondary shafts	.	.	1	2	2	10	15 chambers
Sum total of chambers	.	.	3	5	8	15	31 chambers
Add 2 of type 7 x	.	.	..	..	..	..	2 chambers
Total	.	.	..	..	..	..	33 shafts

The secondary shafts are of less importance for the dating of the mastaba, as they were often made either before or long after the chief burial. The chief shafts are five of type 3, six of type 4, one of type 5, and four of type 6. There are five chief chambers of a capacity greater than 10 cu. m. and four of these are of type 3, while one is of type 4. These are in the most expensive finished mastabas in this cemetery.

5. DISTRIBUTION OF SHAFT TYPES IN LARGE OUTLYING MASTABAS IN THE WESTERN FIELD

Around the nucleus cemeteries of the Western Field lie two groups of mastabas which contain burial-chambers of interest for the dating of the types of shafts. North of Cem. G 2100 stands a mastaba, G 2220, east of G 2210 and north of G 2150 and G 2170.

(1) G 2220: mastaba type VI a; area, 1264.8 sq. m.

A: no shaft found.

B: type 4 b (2); area, 15.12 sq. m.; 21.16 cu. m.; wooden coffin.

C: type 4 a (2) (unfin.); area, 7.37 sq. m.; 10.31 cu. m.; unfinished.

It appears to me probable that the mastaba G 2220 was built especially for a person of more than usual importance who was not satisfied with the normal size of the unassigned cores in this cemetery. I assume that he was related to the owners of G 2210 and G 2130. The mastaba is of type VI with an interior chapel of white limestone of type 3. The shaft may have been prepared at any time, but probably in Dyn. IV.

The other group of mastabas lies east of the Cem. en Échelon on the south and appears to be built up around the mastaba of Prince Duwanera, a son of Chephren and Meresankh III (G 5110). The mastaba was probably built in the reign of Mycerinus. It occupies the place of the first two mastabas in the eastern row of the Cem. en Échelon, perhaps destroyed to provide a site for this mastaba. To the north of it and later in date than the Cem. en Échelon stands G 5230, belonging to 'Prince' Khnum-baf, whom I believe to have been a son of Prince Duwanera. In front of Duwanera stands G 5210, belonging to Khemten, the steward of Prince Ka-wab, his wife, Hetep-heres II, Queen Meresankh III, and another prince (probably Duwanera).

- (2) G 5110: mastaba core type IV iii, mastaba type VII x; area, 1080 sq. m.
 A: type 3 af; area, 10·27 sq. m.; 30·81 cu. m.; empty.
 Granite coffin: found by Schiaparelli; now in Turin.
- (3) G 5230: mastaba of type IX a with two exterior chapels; area, 651·07 sq. m.
 A: type 3 bfx; area, 38·81 sq. m.; 112·54 cu. m.; empty.
 B: type 7 x.
- (4) G 5210: type IX a with exterior chapel of u-masonry; area, 214·23 sq. m.
 A: type 4 b (1); area, 9·36 sq. m.; capacity, 35·57 cu. m.; empty.

6. DISTRIBUTION OF SHAFT TYPES IN CEM. G I S

My information in regard to the types of burial-places in Cem. G I S is confined to that given by Professor Junker in his preliminary report, and the following list is therefore incomplete:

- G I S 1 B: type 4 b (1) x; low chamber; granite sarcophagus; 1·5 m.
- G I S 1 A: unfinished or destroyed; no shaft.
- G I S 2 A: 2-m. shaft, 9 m. deep; no chamber; type 7 x.
- G I S 2 B: type 3; high chamber; granite sarcophagus; type 3 bf.
- G I S 3 A: type 3; high chamber; granite sarcophagus; 1·8 m. shaft.
- G I S 3 B: (?).
- G I S 6: granite coffin; type 3 or 4.
- G I S 7 A: 'used for wife'.
- G I S 7 B: type (?); limestone sarcophagus.
- G I S 8 A: 'as usual'; limestone sarcophagus.
- G I S 8 B: 2-m. shaft; granite and limestone sarcophagus; type 3 or 4.
- G I S 9 A: unreported.
- G I S 9 B: type 3; with high chamber and window; unused.
- G I S 10: unexcavated.

The size of the cores in this cemetery (the larger eastern norm) and the large proportion of stone coffins prove that the persons for whom they were made were of more than ordinary importance. The burial-chambers are all of large size and all of type 3 or 4. As far as recorded the 2-m. shafts predominate in the eastern group and the lesser shafts in the western group. In general the burial-chambers are of older type in the eastern group than in the western group.

7. CHRONOLOGICAL ORDER OF THE SHAFT TYPES

In the above exposition of the distribution of the shaft types through the six nucleus cemeteries at Giza it has become clear that these shaft types were introduced in the following chronological order:

- (a) Type 1: used in 14 of the 15 initial mastabas in Cems. G 4000, G 2100, and G 1200.
 Used in 7 of the succeeding 8 mastabas in Cem. G 4000.
 Used in 1 of 6 succeeding mastabas in Cem. G 2100.
 Used in the succeeding 5 mastabas of Cem. G 1200.
- (b) Type 2: used in Cem. G 4000 in the 9 mastabas of the second addition, G 4140-4740, 4750, 4760.
 Used in the isolated mastaba G 2000 (unlined).
 Used in one mastaba in the Eastern Field, G 7510 (lined): compare the burial-chambers of G I-a, b, c.
- (c) Type 3 (unlined):
 Used in 7 of the 10 chambers in the 5 finished twin-mastabas of Cem. G 7000; also in 5 of the 6 shafts in the 3 western mastabas of the southern row of 4.
 Used in 6 shafts of the 13 in the next 7 mastabas of the reign of Chephren.
 Used in 11 shafts of the following nummulitic mastabas of type VI a.
 Used in Cem. G 4000 in the last mastaba (4650) of the 8 mastabas following the initial 5: used in the 2 mastabas of row 3.
 Used in 1 shaft in Cem. G 2100, in mastaba (2140) (Chephren?).
 Used in the 2 earlier annexes of Cem. G 1200.
 Used in the Cem. en Echelon in 7 shafts in 5 mastabas out of 33 shafts in 16 mastabas. Examples also in Cem. G I S.
 Extremely rare in mastabas dated to Dyn. V.
- Type 4: examples:
 1 in G 7310 B (wife).
 1 in G 7130 B (man).
 1 lined in G 7430 B (wife).
 2 examples in the 6 massive mastabas of the reign of Chephren in Cem. G 7000 (all secondary shafts).
 2 examples in chief shaft in G 7060 and 7070; Prince Neferma'at and his son Sneferuw-khaf.
 9 examples in Cem. G 4000; in rows 1-3 and line 8.
 4 examples in Cem. G 2100; chief shafts in G 2110, G 2150, G 2155, and G 2160.
 7 examples in Cem. en Echelon; 6 chief shafts and 1 secondary to a shaft of type 3; total of 33 shafts in 16 mastabas.
 2 in G 2220.
 Examples occur in Cem. G I S.
 Examples occur in the later mastabas surrounding the nucleus cemeteries and dated to the latter part of Dyn. IV and the beginning of Dyn. V.
 Examples occur in a few large mastabas of Dyn. V, latter part; but the favoured form in this time is type 5.
- Type 5: examples:
 3 examples in Cem. G 4000, 1 in row 3, and 2 in rows 1-2, of which one contained a sealing of Chephren.

1 in the annex mastaba G 1228.

3 in the Cem. en Échelon, of which only 1 (G 5040 B) was a chief shaft.

Examples of type 5 prevail in the mastabas dated to Dyn. V, and while a few examples may be of the end of Dyn. IV, the majority are of Dyns. V and VI.

Type 6: examples:

1 example in Cem. G 1200; annex of G 1233; perhaps the earliest example.

1 chief shaft in G 4830; and 1 secondary shaft in G 4860.

3 chambers in G 4320 and G 4520 (contained sealing of Weserkaf).

2 in later part of Cem. G 2100; a secondary shaft in G 2150 and a chief shaft in G 2170.

1 secondary chamber in G 7130 A.

1 secondary chamber in G 7350 C.

1 in G 7550 A.

14 in Cem. en Échelon; 4 chief shafts; 3 secondary to type 3, 3 secondary to type 4, 1 secondary to type 5, and 3 secondary to type 6.

Type 6 as a cheap type is a favourite form for secondary shafts during the end of Dyn. IV and later; as a chief shaft it is rare before Dyn. V, but comes into greater and greater use for small mastabas during late Dyn. V and Dyn. VI in chief shafts.

The shafts of type 1 stand apart in the Western Field, and type 1 is the foundation of the other types. The great majority of the chambers are in one-shaft mastabas of the earlier normal size and range around a mean size which is in effect a normal size for persons to whom mastaba-cores were assigned by Cheops. The normal size of both cores and burial-chambers was due to the fact that both were made by the public works department of Cheops. The chambers of type 1 are certainly the earliest made in the nucleus cemeteries of the Giza Necropolis.

Type 2 was obviously derived from type 1 by the use of a ramp or stair connecting the floor of the passage with the floor of the chamber, in order to facilitate the descent of the coffin into the chamber. This device first appears in the first of the seven small pyramids of queens at Giza, that for a queen of Cheops (G I-a), and it is plausible that the ramp of type 2 was derived directly from that in G I-a. Probably this, the first of the small pyramids made by Cheops, was finished after the year 15 of his reign and the mastaba-chamber of type 2 was introduced before the end of the reign. The fact that four of the chambers of type 2 in Cem. G 4000, and that the casings of most of the mastabas containing these chambers were also unfinished, indicates that the work was interrupted by the death of Cheops. By this conclusion the examples of type 2 were finished during a short period beginning late in the reign of Cheops. Nine of the shafts of type 2 are in a continuous row in Cem. G 4000 (the whole of row 4 and two mastabas in line 7, rows 5 and 6). Two other examples were in the great mastabas G 2000 in the Western Field and G 7510 in the Eastern Field, the two largest mastabas in the nucleus cemeteries. G 2000 was of the unusual core-type III ii and had both the chamber lining and the casing unfinished, as if the work had been interrupted by the death of Cheops. Its core type is the same as that of the eastern of the four twin-mastabas (G 7410+20: Queen Meresankh II and her husband). The other large mastaba, G 7510, the tomb of Prince Ankh-haf, is a cased mastaba with a core of type IV iii, and is clearly later than the mastaba of Queen Meresankh and her husband. The finishing of this mastaba took place in the reign of Chephren, probably in the first five years. The facts show that the examples of type 2 range from the last few years of Cheops to the early part of the reign of Chephren.

In the Eastern Field the burial-chambers of the three small pyramids of queens are connected by their sizes and lining with the chambers of both types 1 and 2. They are later than the majority of

the chambers of type 1 and probably earlier than the chambers of type 2, of which so many were used unfinished. These three chambers are connected by the sizes of their rock-cut cavities with the unlined chambers of type 3 found in the four north twin-mastabas which lie east of G I-a. It seems to me certain that type 3 in the Eastern Field is in fact only an unfinished type 1. The intention was to line and pave them with white limestone. The chambers were cut in the rock to a size of about the same range as the rock-cut chambers of the small pyramids, but were unfinished at the death of Cheops. One chamber, that of Ka-wab, was, I assume, used in its unfinished state about the end of the reign of Cheops. Thereafter the lining of the chambers was discontinued except for isolated cases, and type 3 became a recognized type for members of the family of Cheops. After the burial of Ka-wab, some of the chambers in the four north twin-mastabas were enlarged from the private means of the owners. As part of the enlargement, one (G 7410 B: Queen Meresankh II) received a second room, a sarcophagus-room, and another, G 7220 A (Prince Hordedef), had a second chamber begun but left unfinished. After the death of Cheops type 3 became the prevailing type for all large tombs. The chambers of the reign of Chephren prepared for members of the royal family show the diversities of size which generally occur in family cemeteries in which the separate tombs are prepared according to the wishes and the means of the individual owners. Some of these later large tombs of the Cem. G 7000 have very large chambers, and the largest of all is that of G 7350 (Queen Hetep-heres II?). The distribution of type 3 shows that it was generally used for the important shafts of Dyn. IV and gradually goes out of use at Giza in the first part of Dyn. V.

Shaft type 4 is obviously a cheapened form of type 3. Its distribution in the nucleus cemeteries (see above) proves that it was later in its introduction than type 3, but was used alongside type 3 even in the same mastabas during Dyn. IV. The occurrence of shafts of type 4 secondary to a shaft of type 3 does not prove that type 4 is later, but only cheaper than type 3. Type 4 certainly continued in use at Giza after type 3 had disappeared.

The types 1-4 include all the long-passage chambers, passages of over 0.5 m. in length. Type 5 is derived from the two unlined types 3 and 4, and the greater part of the examples have the opening of the passage at the roof-level of the chamber (as type 4). In the variations 5 a (1) and 5 b (1) the form established by the chambers of type 1 is still visible. The number of examples in the nucleus cemeteries of type 5 is comparatively small, and the greatest development of its use for large and small chambers lies in Dyn. V. The earliest example appears to be in G 4430 with a sealing of Chephren. When types 4 and 5 or 3 and 5 occur in the same mastaba, the shaft of type 5 is secondary to that of type 3 or 4.

Type 6 is a simplification of type 5 which omits all trace of the connecting passage between shaft and chamber. Nevertheless, it still shows the same variations as far as they were permitted by the omission of the passage or door-jambs. In the early nucleus cemeteries it never appears as a chief shaft, and it is not until Dyn. V that chief shafts of type 6 occur, and then only in small mastabas.

Each of these six types has a longer or shorter range in time.

Type 1: range from the beginning of Cheops' work at Giza to the end of his reign: possibly one example (G 2210) was a little later.

Type 2: was used for a very short period embracing the end of the reign of Cheops and the first few years of the reign of Chephren.

Type 3: ranges from about year 20 of Cheops to the end of Dyn. IV; contemporaneous with the later examples of type 1 and with the examples of type 2.

Type 4: ranges from the reign of Chephren to that of Shepseskaf and the early part of Dyn. V.

Type 5: ranges from the reign of Chephren to the end of Dyn. VI.

Type 6: ranges from the reign of Chephren to the end of Dyn. VI.

The overlapping in time of the different types of shafts renders difficult the dating of individual shafts by their types. Nevertheless, it may be laid down that:

- (a) Shafts of type 1 in one-shaft mastabas are not later than the end of the reign of Cheops.
- (b) Shafts of type 2 are not earlier than the last few years of Cheops, nor later than the first few years of Chephren.
- (c) Large examples of type 3 in one-shaft mastabas are probably of the latter part of the reign of Cheops if the location of the mastaba permits this date; chambers in two-shaft mastabas, whatever the size, are not earlier than the reign of Chephren and may be as late as the early part of Dyn. V.
- (d) Chief shafts of types 4, 5, and 6 which occur in two-shaft and multiple-shaft mastabas are not earlier than the reign of Chephren, and the presumption is that shafts of type 4 are earlier than shafts of the other two types.

All the types from 2 to 6 are developed directly from type 1 at Giza. The succession of types presents a continual cheapening of the form from type 1 to type 6. The distribution of the types proves that this cheapening also corresponds to the lapse of time in the use of the necropolis and therefore amounts approximately and roughly to a chronological scale. The history of the cemetery is bound up with the fortunes of the royal family of Dyn. IV, and the lessening of the means available for funerary monuments in the nucleus cemeteries is part of that history. In Dyn. V the old cemeteries were given over to the descendants of the kings of Dyn. IV, to funerary priests, and to minor officials. Apparently certain unused cores in the Western Field were granted by royal gift to favourites of the kings of Dyn. V. A few medium-sized mastabas were constructed on independent sites, but the vacant spaces of the six nucleus cemeteries were taken by a large number of small and very small mastabas, in which the shafts of types 5 and 6 predominate.

8. BURIAL-PLACES OF TYPE 9

In the Giza cemeteries a number of burial-places have been found which were entered by a sloping passage, not by a square shaft. This later form of the sloping-passage tomb occurs most frequently in the latter part of Dyn. V and in Dyn. VI. The burial-chamber is almost always a large N-S room with the opening of the passage in the north end of the east wall, or in the east end of the north wall. The chambers vary in height, being in some cases very high (as type 3) and in others comparatively low (between 1 and 2 m.). In the high chambers the opening of the passage is usually at floor-level, but in the low and medium-high chambers it is more often at roof-level. The chambers contain a stone sarcophagus of some sort in the great majority of cases. At Giza the passage and the chamber are cut in the rock and the passage is lined and roofed with stone slabs to form a smaller sloping passage inside the rock-cut passage. The lining of the passage was constructed after the introduction of the stone sarcophagus when such a sarcophagus has been found. After the burial the lined passage was plugged with long blocks of stone after the manner of the sloping passages in pyramids of Dyns. IV and V.

Type 9 is not to be confused with the old sloping-passage tomb of Medum. The Medum type with both chamber and sloping passage built in an open rock-cut trench was later entirely covered by the mastaba, and the sloping passage descending from north to south was entered from the top of the mastaba. Type 9 had its sloping passage descending not from the north covered by the mastaba, but from

outside the body of the mastaba, that is, from the floor of the offering-chapel or from the outside face of the mastaba or from the floor of the street outside the mastaba. Moreover, in most examples and in all the earlier examples the passage descended from east to west, not from north to south. The examples with descent from north to south usually present a form necessitated by their location which made the construction of the shaft passage on the north more practicable.

I am of the opinion that the sloping-passage tombs of Medum hardly range beyond the end of the reign of Sneferuw, and were a special development at Medum of the substructure types devised for royal tombs of Dyn. III. They were followed at Medum by the shaft type with built chamber. This was the burial-place from which the Giza lined chambers were directly derived. It is clear that the Giza craftsmen had knowledge of the sloping-passage and shaft types of Medum. It may even be presumed that some of the royal craftsmen employed at Medum were still active at Giza in the reign of Cheops. After the creation of the special Giza type 1, early in the reign of Cheops, the development of the shaft types ran on steadily through types 2-6. The form and structure of the great core-mastabas were unsuitable to the use of a sloping passage and only one case was found:

- (1) G 7120 A: Prince Ka-wab; of type 3 with sloping passage added later, descending from the floor of the street outside the mastaba downwards to the WSW.

The sloping passage was made after the introduction of the granite sarcophagus into the chamber and entered through the eastern side of the connecting passage of the original chamber of type 3. This passage was lined and roofed with slabs and was probably used to introduce the body and the funerary equipment into the chamber. At that time the doorway to the chamber may have been already blocked and the great shaft filled with limestone debris. After the burial the sloping passage was plugged with long blocks of stone, as is usual in pyramid passages. I conclude that this sloping passage was made at the end of the reign of Cheops. It must be remembered that the sloping passage was an afterthought and that the tomb was actually of the same type (type 3) as most of the shafts in this group of twin-mastabas.

It is possible that Ka-wab was hastily buried in the chamber as it was originally constructed and that later in the reign of Chephren it was desired to increase to a suitable degree the funerary equipment and offerings, and for this purpose the sloping passage was excavated to obtain access to the mastaba burial-chamber.

Whatever the date of the cutting of the added sloping passage to the tomb of Ka-wab, the sloping-passage tomb as presented by the examples of Dyns. V-VI is certainly rare during Dyn. IV. In the rock-cut tombs of the Cheops-Chephren quarry, made in the reign of Mycerinus and Shepseskaf for members of the family of Chephren, a number of examples occur, and I am able to give two examples (Nos. 2 and 3 below). In the same quarry a number of other examples occur ranging at least to the end of Dyn. V (see the sloping-passage tomb of Queen Khent-kauws, excavated by Professor Selim Bey Hassan). In the Mycerinus quarry is the tomb of Prince Khuwnera, son of Mycerinus. The earlier of these examples present a form in which the sloping passage opens in the bottom of a shallow shaft, and this form recalls the sloping-passage connecting shaft and chamber in the shafts of types 1-3. The cutting of sloping passages in the substructures of the Giza pyramids had made the methods used in the cutting of such passages a familiar operation and probably facilitated the development of type 9. The type was peculiarly adapted to use in the rock-cut tombs.

It was after the middle of Dyn. V that type 9 became more common at Giza. The first certainly dated example is that of Senezem-ib-Yenti (G 2370 A), which was made in the first year of Unis, and there are seven other sloping-passage burial-places made in succession for descendants of Yenti

extending in time to the reign of Pepy II. These are along the eastern edge of the Western Field where the topography favoured the use of sloping passages from the east. Southwards of these a number of other shafts of type 9 were made about the same time as those of the Senezem-ib complex. Farther west, among the secondary mastabas intruded in the streets and spaces of the Western Field, a small number of shafts of type 9 occur, widely scattered. I give a comprehensive but not exhaustive list of the sloping-passage shafts:

(a) Shafts in the Cheops-Chephren quarry:

- (2) LD 87: Prince Nekauwra; LD, Textband I, p. 105; passage descends from south; limestone sarcophagus.
- (3) LD 88: Queen Per(sent); LD, Textband I, p. 107; passage from south; empty chamber.
- (4) Galarza Tomb: *Annales*, X, p. 42: Queen Kha-merer-nebty I; one of the burial-places descends by a sloping passage to a large chamber with coffin-recess in the west wall; found empty.
- (5) LD 94: Rawer; chamber excavated by Baraize; sloping passage from outside mastaba, descending to west to large N-S room containing a panelled limestone sarcophagus; late Dyn. IV or Dyn. V.
- (6) Selim Bey Hassan, *Giza*, I, p. 89; type 9 a; sloping passage descends from the east; granite sarcophagus; lid ledge; canopic pit in SE corner.
- (7) Queen Khent-kauws: excavated by Professor Selim Bey Hassan; type 9 a; with coffin-pit; sloping passage descends from floor of corridor chapel westwards.

(b) The sloping-passage tomb in the Mycerinus quarry:

In the rock-cut tomb of Khuwnera in the Mycerinus quarry, one of the two burial-places is approached by a shaft and a sloping passage from the east:

- (8) MQ No. 1: Prince Khuwnera, son of Mycerinus and Kha-merer-nebty II; passage descends from the east opening in the floor of the offering chamber; red granite sarcophagus.

(c) Sloping-passage tombs in Cem. G 7000:

- (9) G 7211 A: type 9 b; passage descends southwards from shallow shaft; lined passage, 2.4 m. long (horizontally); room, 4.45 × 2.3 m.; area, 10.23 sq. m.; capacity, 17.9 cu. m.; limestone coffin; passage closed with plug-stones.
- (10) G 7215 D: type 9 b (4); sloping passage descends southwards from shaft (4.7 m.) long (horizontally); lined passage; blocking removed; room, 4.0 × 3.0 m.; area, 12.0 sq. m.; 16.8 cu. m.; attached stone coffin.
- (11) G 7215 E: type 9 a; sloping passage descends southwards from shaft; horizontal length, 4.3 m.; room, 2.8 × 3.0 m.; area, 8.4 sq. m.; 8.82 cu. m.; no coffin; perhaps unused.

These three belong to a complex attached to the funerary chapel of G 7210, which appears to begin in Dyn. V and ends with the tomb of Yeduw (early Dyn. VI).

(d) The sloping-passage tombs of the Senezem-ib complex:

- (12) G 2370 A: type 9 a; passage descends westwards from the front of the platform; passage lined and plugged; limestone sarcophagus. Dated to the first year of Unis; chamber area, 5.68 sq. m.; capacity, 6.53 cu. m.
- (13) G 2378 A: type 9 a; tomb of Senezem-ib-Mehi; sloping passage from shallow shaft descends westwards; lined and plugged; granite sarcophagus. Date: Mehi was the brother of Yenti; probably reign of Unis; chamber area, 22.6 sq. m.; capacity, 54.24 cu. m.

- (14) G 2385 A: probably the tomb of Khnumenti; type 9 a; sloping passage descends from east; large chamber with burial-chamber below it; coffin-pit in lower chamber; upper chamber: area, 19.6 sq. m., and capacity, 39.2 cu. m.; lower chamber: area, 6.6 sq. m., and capacity, 8.25 cu. m.; total floor area, 26.2 sq. m.; total capacity, 47.45 cu. m.; diorite cup inscribed with the name of King Tety.
- (15) G 2387 A: tomb of Ptahmerankh-Pepy; type 9 a (1); sloping passage from east opening in well; 2 rooms, large upper room and burial-room below it; burial-pit in lower chamber; upper chamber: area, 18.15 sq. m., and capacity, 32.57 cu. m.; lower room: area, 15.08 sq. m., and capacity, 22.62 cu. m.; total floor area, 33.23 sq. m.; total capacity, 55.19 cu. m.
- (16) G 2382 A: tomb of Nekhebuw (?); type 9 a (1); passage from east; burial-pit; chamber area, 9.69 sq. m.; capacity, 9.69 cu. m.
- (17) G 2381 A: type 9 a (1); tomb of Impy; sloping passage from east; wooden coffin in coffin-pit; found intact with passage plugged with five long blocks; sealing of Pepy II; chamber area, 6.24 sq. m.; capacity, 8.42 cu. m.
- (18) G 2381 C: type 9 a (1); tomb ascribed to Ptah-sabuw, brother of Impy; sloping passage from east; coffin-pit; chamber area, 11.13 sq. m.; capacity, 20.03 cu. m.

This group of burial-places ranges from the first year of Unis to the reign of Pepy II.

(e) Sloping-passage tombs south of the Senezem-ib complex excavated by Professor Junker:

- (19) Ka-kher-Ptah: Junker, *Vorbericht*, 1914, p. 23; passage descends from east (p. 14); burial-chamber decorated with table scene and compartment list of offerings; N-S chamber; rough stone coffin.
- (20) Yeduw: Junker, *Vorbericht*, 1914, p. 16; sloping-passage from the east; limestone sarcophagus with ink inscriptions.
- (21) No name: Junker, *Vorbericht*, 1914, p. 16; sloping passage tomb, descending from the east; large 2-room apartment.

(f) Sloping-passage tombs still farther south, east of G 5230 and on a knoll in the SE corner of the Western Field:

- (22) G 5234 A: type 9 a; passage descends from east from forecourt; lined and plugged.
- (23) G 5235 A: type 9 a; passage descends from the east; lined but not plugged; unfinished attached stone coffin; coffin-lid found in the lower end of the sloping passage; a square shaft breaks into roof of chamber in north-west corner; chamber probably unused.
- (24) G 5411 A: type 9 b; passage descends from the north; lined and plugged.
- (25) G 5412: unfinished sloping passage.
- (26) Schiaparelli.

(g) Sloping-passage shafts in secondary mastabas of the Western Field.

Farther west in the Western Field, in the part excavated by our expedition, four sloping-passage tombs were recorded, one in the Cem. en Échelon, two in Cem. G 4000, and one in Cem. G 1000 (west of G 2000). None of these is earlier than the later part of Dyn. V:

- (27) G 5040 D: subsidiary to the rock-cut chapel of Khnum-shepses; type 9 b (1); sloping passage from north; burial-pit; chamber area, 8.98 sq. m.; capacity, 13.81 cu. m.
- (28) G 4733 A: type 9 a (1); passage from east from floor of chapel.
- (29) G 4811 E: type 9 a (1); sloping passage descends from east from floor of court (lettered i).

- (30) G 1047 A: Min-ankh; priest of the pyramid of Menkauwhor; type 9 b (2); sloping passage descends from north from opening in the north wall of mastaba; attached stone coffin; chamber area, 7.87 sq. m.; capacity, 11.8 cu. m.

(h) Sloping-passage tombs in the secondary mastabas of G I S:

One of the old cores of Cem. G I S (Junker) had been reconstructed later for Sekhemka and contained a sloping passage added later under unexplained circumstances. Three other sloping-passage tombs were used in the outlying mastaba of Seshem-nofer IV, and a fifth in a secondary mastaba near G I S, No. 1. None of these is certainly dated, but they appear to have been made in the latter part of Dyn. V or in Dyn. VI:

- (32) G I S, No. 8: Sekhemka; Junker, *Vorbericht*, 1929, p. 96; large shaft and chamber of type 3 (?); sloping passage from east, added later as in G 7120 A (Ka-wab); granite sarcophagus and inner limestone box.
- (32) G I S, No. 11 or 12: Junker, *Vorbericht*, 1929, p. 125; passage from east; N-S chamber; coffin-recess in west wall; limestone *qrst*-coffin; canopic recess in south end of west wall above floor; compartment list of offerings on east wall.
- (33) Second sloping passage in same mastabas as No. 11; for Hetep-heres; sloping passage from north; rough limestone sarcophagus.
- (34) Third passage in same mastaba as Nos. 32 and 33; for Theti, son of Seshem-nofer; descends from north; N-S chamber with coffin-recess; limestone *qrst*-coffin; ramp from end of passage to floor of chamber.
- (35) G I S, SE of No. 1: Junker, *Vorbericht*, 1928, p. 183; sloping passage from east; burial-pit.

At Abusir, in the cemetery attached to the pyramid of Neweserra (see Borchardt, *Das Grabdenkmal des Königs Ne-user-rê*), appears a series of burial-places which seem to have been developed for this cemetery. The chief characteristic is that the chambers are again lined and roofed somewhat after the manner of the Medum shafts. The form arose no doubt as usual from the poor quality of the rock. The roof consisted of horizontal slabs relieved above by a corbelled arch. The burial-places of the four great princesses resemble the Giza type 3 except that they are lined. They are distinctly not of Giza type 1, but lined imitations of type 3. Near these stand three mastabas which contain burial-places of type 9, also lined, paved, and roofed. It is interesting to see a similarity in form between two of the Abusir versions of type 9 and some of the old sloping-passage tombs of Medum, but it is not to be concluded that the similarity of form, which arose in both cases out of bad rock stratum, indicates any similarity in date.

- (36) Weserkaf-ankh: Borchardt, *Ne-user-rê*, Pl. 20; man's burial-place; passage sloping down from east; enters N-S corridor or hall on the west of which opens a burial-chamber with pillar supporting the eastern side; lined and paved chambers; wife's shaft of type 3 also lined and paved.
- (38) Zaza-m-ankh: Borchardt, l.c., Pls. 22, 23; man's and wife's burial-places, both of type 9, with sloping passage descending from east from floor of chapel; man's chamber with 2 rooms; both burial-places lined and paved, roofed with horizontal slabs with relieving corbel above the roof.
- (39) 'Unbekannt': Borchardt, l.c., Pl. 2; type 9 with passage descending from east; at lower end passage opening south to hall and burial-recess; lined, paved, and roofed.

It is from the time of Neweserra, in the latter part of Dyn. V and the first half of Dyn. VI, that the

shaft type 9 appears in a number of the Memphite cemeteries. At Saqqarah, where only a small proportion of the shafts have been excavated, two examples are known of type 9:

- (40) Thiy: Saqqarah, MM, D 22; chamber lined but not roofed.
- (41) Nima'atra: Saqqarah, MM, D 17; sloping passage descends from east from floor of corridor chapel: granite sarcophagus.

At Abu Roash, M. Bisson de la Rocque (*Rapport sur les fouilles d'Abou-Roash* (1924)) has reported three mastabas of Dyns. V-VI which have burial-places of type 9:

- (42) Abu Roash, F 9: l.c., p. 13; sloping passage (lined) descends from east from face of mastaba; limestone sarcophagus.
- (43) Abu Roash, F 10: l.c., p. 18; sloping passage lined and plugged; descends from east; limestone sarcophagus.
- (44) Abu Roash, F 21: l.c., pp. 60-61; 2 sloping passages descending from east, both lined; (1) on south from floor of chapel, with east wall of chamber on each side of opening lined with masonry; (2) descends from face of mastaba, with east face of chamber lined with masonry.

In Upper Egypt at Dendera Sir Flinders Petrie recorded two c.b. mastabas with roofed sloping tunnels descending from the north, but these are not of type 9 but a special form obviously a degeneration of the old stairway type. Petrie dates these two to Dyn. VI (Petrie, *Denderah*, Pl. XXIX).

Taking all the material at present available, type 9 is a well-defined and characteristic form used for larger burial-places. The range of its chief employment is from the middle of Dyn. V to the end of Dyn. VI. It presents special facilities for the introduction of a stone sarcophagus, and a majority of the examples contained such a sarcophagus. Probably the type with its plugged passage implies the belief that such passages were more secure than rubbish-filled shafts, and this may have contributed to their use for the period mentioned above. But however secure theoretically, all but one of those found by us were completely or nearly completely plundered. The one intact tomb of type 9 (G 2381 A) contained nothing which would have rewarded the plunderers for a tenth of their labour in cutting out the plug-stone.

9. MINOR FEATURES OF THE SHAFT TYPES

In addition to the chief features on which the classification of the shaft types of substructure were based, the burial-places presented certain minor features as follows:

- (a) Canopic pits or recesses for containing the canopic packages.
- (b) The 'window' between shaft and upper part of chamber.
- (c) The recess in the north wall of the shaft.
- (d) Coffin-pits.
- (e) Masonry blocking and portcullis slabs.
- (f) The filling of the shaft after burial.

a. Canopic Pits and Recesses for containing the Canopic Packages

The removal of the viscera and brain was an essential part of the process of true mummification. The first dated evidence is that given by the canopic chest of Queen Hetep-heres I found in the secret tomb at Giza. The internal organs had been made into four packages wrapped in linen, and these packages had been placed each in one of the four compartments of the alabaster chest and covered with a solution of natron in water. The tightly fitting lid had been tied on with a thin cord which had been sealed with a lump of mud bearing impressions of the seal of the *wrbt* of Cheops. The chest was

walled up in a rough recess in the western wall of the burial-chamber. The process of mummification in its more primitive form was probably introduced for royal persons early in Dyn. I, and soon spread to members of the royal family and other important people. The exact time when the removal of the internal organs was added to the simpler process is obscure. It may be assumed that it was introduced first for royal persons and spread downwards in the population. Unfortunately we have no definite evidence for royal persons before the canopic chest of Queen Hetep-heres I, but it is to be noted that the length of her coffin indicated a body half-extended on the side with the knees bent, or even fully extended on the back. I have concluded elsewhere that the half-extended and extended position of the body displaced the old contracted position as a result of the introduction of the improved process of mummification (removal of the internal organs, wrapping of the limbs separately in bandages). Therefore the use of burial receptacles adapted to the longer position of the body may be taken as evidence of mummification of the better sort. The burial-chamber of King Zoser under the Step Pyramid and the two alabaster coffins found in the subsidiary eastern passages prove, I think, that true mummification was employed by that king and his immediate family, probably not for the first time by royal persons. It may be assumed that mummification was practised by all succeeding kings and their immediate relations and it is certain that such was the case from the beginning of Dyn. IV and onwards. The evidence is given not only by the length of the coffin, but more particularly by the canopic pit or recess made to take the canopic packages or, alternatively, a small wooden box containing those packages.

The canopic pit in the SE corner of the burial-chamber and the canopic recess in the south wall are seen definitely developed in the sloping-passage tombs of Medum (reign of Sneferuw): see *Tomb Development*, Ch. IX. It is to be assumed that both these types of canopic receptacle were closed with a limestone lid or slab as was the case at Giza. Earlier than this, in the stairway tombs of Dyn. III, the occurrence has been noted of two niches (occasionally one) in the hall or anteroom opposite the burial-chamber, and on the valley side. I have not taken these niches as canopic recesses because they occur in the tombs with contracted burials, they are in a wall which was never used later for canopic recesses, and were not blocked or closed in any way. I interpret them as *ka*-doors giving exit from the sub-structure, a form of *ka*-door which can be definitely traced from Dyn. I (see *Tomb Development*, pp. 33, 184). It is further to be noted that canopic niches or pits do not occur in any of the burial-chambers of kings down to the end of the Old Kingdom. It is to be presumed that in the royal chambers of Dyns. III–VI the canopic packages were contained in stone boxes set on the floor of the chamber.

At Giza the canopic packages were disposed in several different ways:

- (a) The most frequent container for the canopic packages was the 'canopic pit': placed in the SE corner of the burial-chamber; the orifice was closed with a rectangular limestone slab which was fitted in a rebate, or wedged in the orifice, but sometimes lay on the floor over the pit.
- (b) Less frequent and later in date was the 'canopic recess': excavated in the southern rock wall of the chamber, near the SE or the SW corner, or in the south end of the east wall; closed by a rectangular slab which was fitted in a rebate in the orifice or wedged in the opening, perhaps sometimes set against the wall outside and bound with plaster.
- (c) There are a few cases in which the canopic receptacle consisted of a stone chest built on the floor of the burial-chamber or of a recess, and closed like the canopic pit; these are called hereafter 'built canopic chests'.
- (d) The canopic chest, similar to that of Hetep-heres I, which is of frequent occurrence in Dyn. V, and later may also be presumed at least for the more important tombs without canopic pit or recess; it is also possible that wooden chests were placed in some of the canopic pits and recesses.

The canopic pits are distributed as follows:

(a) The fifteen initial mastabas of the Western Field.

- (1) G 1201: shaft type 1 al; pavement removed; rock-cut pit: 0.65×0.56 cm.; depth, 0.35 cm.
- (2) G 1203: type 1 cl: 0.72×0.53 cm.; depth, 0.49 cm.; reserve head.
- (3) G 1205: type 1 cl: 0.65×0.55 m.; depth, 0.6 m.; no rebate.
- (4) G 1223: shaft type 1 brx; pavement removed; rock-cut pit: 54×38 cm.; depth, 52 cm. in rock; total depth, 77 cm.; rebate in rock on north and west.
- (5) G 1225: shaft type 1 bl; pavement removed; rock-cut pit: 100×63 cm.; depth, 54 cm. in rock.
- (6) G 2100: shaft type 1 cf: 60×60 cm.; depth, 50 cm.; no rebate.
- (7) G 2120: shaft type 1 al: 65×50 cm.; depth, 0.35 cm.
- (8) G 4000: north pit, shaft type 1 b(ell)x: 58×58 cm.; depth, 50 cm.; with rebate on all four sides.
- (9) G 4150: shaft type 1 ar: 58×58 cm.; depth, 40 cm.; with rebate on all four sides.
- (10) G 4160: shaft type 1 br: 58×57 cm.; depth, 54 cm.; lid set in rebate.
- (11) G 4250: shaft type 1 ar: pavement removed; rock-cut pit: 67×64 cm.; depth, 70 cm.; rebate on north and west.
- (12) G 4260: shaft type 1 ar; 65×63 cm.; depth, 57 cm.; rebate on all four sides.

Thus of the fifteen initial mastabas, twelve presented definite evidence of measurable canopic pits in the SE corner. The ordinary size appears to be about $50-60 \times 50-60$ cm. with a depth of 50-55 cm. but with variations. Where there is a wide rebate in the orifice of the rock-cut part, it is to be presumed that this was filled with white pavement stones, as was probably the case in G 1225.

The next succeeding mastabas, presumed to have been finished in the reign of Cheops, consist of five in Cem. G 1200, one in Cem. G 2100, and seventeen in Cem. G 4000.

(b) The twenty-three succeeding chambers of types 1 and 2 of the Western Field.

- (13) G 1207: shaft type 1 al; pavement removed; rock-cut pit: 65×50 cm.; depth, 36 cm.; in rock.
- (14) G 1209: shaft type 1 cl; pavement removed; rock-cut pit: 56×47 cm.; depth, 20 cm.; in rock.
- (15) G 2135: shaft type 1 cm.; unpaved; rock-cut pit: 65×68 cm.; depth, 45 cm.; in rock; rebate for lid.
- (16) G 4350: shaft type 1 cm.: 55×48 cm.; depth, 55 cm.; no rebate.
- (17) G 4360: shaft type 1 ar: 60×50 cm.; depth, 67 cm.; rebate (?).
- (18) G 4450: shaft type 1 cm.: 55×55 cm.; depth, 45 cm.; rebate.
- (19) G 4460: shaft type 1 am; unpaved: 66×60 cm.; depth, 49 cm.; rebate.
- (20) G 4560: shaft type 1 al; unpaved: 60×55 cm.; depth, 43 cm.; rebate cut in rock.
- (21) G 4650: shaft type 3 cm: 65×68 cm.; depth, 45 cm.; rebate cut in rock.
- (22) G 4660: shaft type 1 cl; unpaved: size of canopic pit not reported.
- (23) G 4240: shaft type 2 bm (stair); unlined chamber: 57×70 cm.; depth, 46 cm.; cut in rock.
- (24) G 4440: shaft type 2 brx (ramp); lined chamber: 67×55 cm.; depth, 50 cm.
- (25) G 4540: shaft type 2 ar (stair); unpaved: 53×47 cm.; depth, 45 cm.
- (26) G 4640: shaft type 2 br (stair); unpaved: 54×46 cm.; depth, 57 cm.

Thus of the twenty-three chambers of types 1 and 2, including one of type 3, finished after the fifteen initial mastabas, fourteen had canopic pits. Some of the nine remaining chambers had been used in an unfinished state.

We turn now, as usual, to the Eastern Cemetery.

(c) The five finished twin-mastabas in the Eastern Field:

(27) G 7210 B: type 3 af: 46×48 cm.; depth, 58 cm.; rebate on all four sides.

(28) G 7420 A: shaft type 3 cmx: 62×64 cm.; depth, 32 cm.; no rebate.

(d) The two unfinished twin-mastabas of the southern row:

(29) G 7330 B: shaft type 3 bf: 65×65 cm.; depth, 55 cm.; no rebate.

(e) Mastabas finished in first half of the reign of Chephren:

(30) G 7430 A: shaft type 4 a (1); canopic pit in second chamber: 71×69 cm.; depth, 67 cm.; no rebate.

(31) G 7650 C: shaft type 3 afx: 60×64 cm.; depth, 68 cm.; with rebate.

(f) Mastabas finished in the second half of the reign of Chephren:

(32) G 7550 B: shaft type 3 amx: 55×50 cm.; depth, 72 cm.

(33) G 7660 B: shaft type 3 afx; 2 chambers, canopic pit in second chamber: 63×63 cm.; depth, 50 cm.; no rebate.

(34) G 7760 B: shaft type 3 bfx; canopic pit in second chamber; canopic pit in *south-west* corner; 53×53 cm.; depth, 50 cm.; with rebate.

(35) G 7810 A: shaft type 3 afx; 65×65 cm.; depth, 55 cm.; with rebate.

(36) G 7810 B: shaft type 3 bf; 80×70 cm.; depth, 55 cm.; no rebate.

(37) G 7820 B: shaft type 3 af; 60×60 cm.; depth, 55 cm.; no rebate.

(g) Finished mastabas of the reigns of Mycerinus and Shepseskaf and the early part of Dyn. V in both Eastern and Western Fields.

In the Eastern Field, nucleus cemetery, first and second additions:

(38) G 7350 A: shaft type 3 am; 79×82 cm.; depth, 47 cm.; with rebate on north and west.

(39) G 7560 B: shaft type 4 b (1) x, with low ramp inside chamber; 67.5×57.5 cm.; depth, 50 cm.; without rebate.

(40) G 7670 B: shaft type 3 bf; 50×47.5 cm.; depth, 45 cm.; without rebate.

In the Western Field in reconstructed nucleus mastabas or in large outlying mastabas:

(41) G 5110 A: outlying mastaba of Prince Duwanera; shaft type 3 af; 62×56 cm.; depth, 62 cm.; no rebate.

(42) G 2150: reconstructed nucleus core: shaft type 4 b (1); 93×63 cm.; depth, 55 cm.; rough limestone lid over hole.

(43) G 2155 A: reconstructed nucleus core (Junker); shaft type 4 a (4); 80×60 cm.; depth, 60 cm.

(44) G 5080 A: reconstructed nucleus core: shaft type 4 b (2); 65×54 cm.; depth, 55 cm.; no rebate.

In addition to these certain canopic pits in G 5230 (outlying mastaba north of G 5110), a chamber of type 3 bfx had an unfinished canopic pit or an emplacement for a canopic chest in the NE corner (measuring 110×100 cm. and 20 cm. deep).

In Cem. G I S, nucleus core:

(45) G I S, 1 B: reconstructed massive core: shaft type 3; canopic pit in SE corner, measurements not available.

The occurrence of canopic pits will be summarized below with the other forms of canopic receptacle.

The canopic recess does not appear at Giza until late in the reign of Cheops. It is usually cut in the walls around the SE corner either in the east end of the south wall or in the south end of the east wall. In four, however, the recess is in the south wall near the SW corner. The distribution of the recesses is as follows (the recess is in the east end of the south wall unless otherwise stated):

- (1) G 7120 A: shaft type 3 cf; with sloping passage from east added; 68×60 cm. (width and height of opening); depth, 68 cm.; rebate on sides and top of orifice.
- (2) G 7310 B: shaft type 4 a (1); 70×77 cm.; depth, 69 cm.; no rebate.
- (3) G 7410 B: shaft type 3 af; 2 chambers; canopic recess in second chamber; canopic recess in east wall near south end; 65×40 cm.; depth, 80 cm.; rebate on 2 sides and top.
- (4) G 7130 B: shaft type 4 a (1) with second room with granite sarcophagus and canopic recess; recess in west end of south wall of room between 2 blocks of white lining, 0.5 m. wide (E-W), 0.3 m. high, and 1.05 m. deep with back part cut in rock (0.4 m.); no rebate.
- (5) G 7430 B: shaft type 4 a (1); lined chamber; second chamber begun but unfinished; coffin-pit in first chamber; canopic recess in south wall at east end, 160 cm. above floor and behind casing if completed; 60×70 cm.; depth, 50 cm.; no rebate.
- (6) G 4860 A: shaft type 4 a (2); chamber on west; height of chamber and passage, 182 cm.; canopic recess in south wall flush with east wall; 66×70 cm.; depth, 60 cm.
- (7) G 4940 B: shaft type 3 crx; 1.1×0.9 cm.; depth, 90 cm.; no rebate; in south end of east wall.
- (8) G 7050 B: shaft type 3 bm; in west end of south wall; 75×73 cm.; depth, 78 cm.; no rebate.
- (9) G 7060 B: shaft type 4 b (4) x; 75×75 cm.; depth, 80 cm.; no rebate; in west end of south wall.
- (10) G 7070 B: shaft type 4 b (4) x; 74×70 cm.; depth, 68 cm.; no rebate; in west end of south wall.
- (11) G 7340 X: shaft type 4 a (2) (abnormal); in east end of south wall; 63×82 cm.; depth, 50 cm.; no rebate.

The canopic recess in the south wall was recorded in the sloping-passage tombs of the reign of Sneferuw at Medum. Here at Giza the earliest examples were clearly those in the twin-mastabas of the Eastern Field, where it occurred as often as the canopic pit; but all the earlier mastabas had a canopic pit.

A third form of canopic receptacle was the 'built canopic chest', of which the following examples occur:

- (1) G 7320 A: shaft type 3 af; a second chamber had been begun and in the excavated cavity on the floor a chest of 4 slabs had been built; 55×55 cm.; depth, 60 cm.; rebate on all four sides.
- (2) G 4710 A: shaft type 4 a (2) x; modified; box built of stone on three sides against south wall, east of middle; 90×70 cm.; depth, 60 cm.
- (3) G 7530 A: shaft type 4 a (1); built of stone partly in rock against middle of south wall; 4 canopic jars with lids; 70×68 cm.; depth, 52 cm. (17 cm. in rock).

This last chamber was constructed in the first or second year of Shepseskaf, and establishes the use of the limestone jar with disk lid as a canopic receptacle as early as the reign of Shepseskaf. Other examples of such jars were found in G I S 7 B and G I S 2 B. Such jars, usually without trace of contents, were found in the burial-chambers of Dyn. V.

As said above, the evidence for the occurrence of the canopic chest at Giza in Dyn. IV is limited to the canopic chest of Queen Hetep-heres I. I doubt whether any of the canopic pits in the Western Field were of a size compatible with the use of a wooden chest which contained the packages. The larger pits, particularly in the Eastern Field, may, however, have contained wooden canopic chests, and the same is true for the large recesses without rebate which are generally of later date. In G I S 8 B,

a burial-chamber of late Dyn. V, in a SW recess, Professor Junker found fragments of a limestone canopic chest.

The following table permits an oversight of the distribution of the different types of canopic receptacle in the Cheops cemetery:

SUMMARY TABLE: distribution of canopic receptacles in cemeteries:

Cemetery	Shafts	Types of canopic receptacles			Total receptacles	Without receptacles
		Floor pit	Recess SE SW	Built chest		
G 1200, initial	5	5	.. ..	..	5	..
G 2100, initial	5	2	.. ..	..	2	3
G 4000, initial	5	5	.. ..	..	5	..
Total initial	15	12	.. ..	..	12	3
G 1200, succeeding	5	2	.. ..	..	2	3
G 2100, succeeding	1	1	.. ..	..	1	..
G 4000, succeeding	17	11	.. ..	..	11	6
Total succeeding	23	14	.. ..	..	14	9
G 7000, 5 twin-mastabas	10	2	3 1	1	7	3
G 7000, 2 unfin. twin-mastabas	4	1	.. ..	..	1	3
G 7000, 1st addition and 8th twin- mastabas	9	2	.. 1	..	3	6
G 7000, later Chephren to Mycerinus	17	6	2 2	..	10	7
Total G 7000, to Mycerinus	40	11	5 4	1	21	19
Canopic receptacles in mastabas end of Dyn. IV and early Dyn. V:						
G 7000, added to lines 3, 5-6	7	3	.. ..	1	4	3
Western Field: large outlying masta- bas, 5110, 5230, 2220	5	1	.. ..	..	1	4
G 4000, later mastabas	20	..	1 ..	1	2	18
G 2100, last 5 mastabas	6	2	.. ..	..	2	4
Cem. en Échelon	25	1	1 ..	..	2	23
Cem. G I S	6	1	.. ..	..	1	5
Total late mastabas	69	8	2 ..	2	12	57
Sum total Dyn. IV and early Dyn. V	147	45	7 4	3	59	88

The canopic pit in the SE corner was used with three exceptions in all the fifteen initial mastabas of the Western Field, the cores of which certainly dated to the reign of Cheops. This form of canopic receptacle continued generally in use in all the remaining mastabas of the Western Field dated to the reign of Cheops, but five examples of the later twenty-three chambers certainly had no canopic receptacle. Perhaps these five had wooden chests set on the floor of the chamber in the SE corner. In the Eastern Field, beginning about the years 17-20 of Cheops, both types of receptacle, the pit and the recess, are found in use. During the period from Chephren onwards the use of a canopic pit or recess became less frequent, and in these chambers I would again assume the use of a wooden canopic chest as proved for later times. Of the three built stone receptacles, one is from the end of the reign of Cheops or soon

after, one from the reign of Mycerinus, and the third from the early part of the reign of Shepseskaf. This type was obviously suggested by the wooden or stone canopic chests set on the floor.

The occurrence of canopic receptacles in the burial-chambers of different types may be summarized as follows:

SUMMARY TABLE: distribution of canopic receptacles in different shaft types:

Shaft type	Shafts	Types of canopic receptacles			Total receptacles	Without receptacles
		Floor pit	Recess SE SW	Built chest		
Type 1: lined chambers . . .	27	21	.. ..	..	21	6
Type 2: lined and unlined . . .	11	4	.. ..	..	4	7
Type 3: unlined chambers . . .	42	15	3 1	1	20	22
Type 4: degenerate chambers . . .	34	5	4 3	2	14	20
Type 5: with narrow door-jambs . . .	10	..	.. ..	..	..	10
Type 6: without jambs . . .	23	..	.. ..	..	..	23
Total . . .	147	45	7 4	3	59	88

This second table presents the same facts as the first, but in a different arrangement.

Of the 38 chambers of types 1 and 2, which were lined or intended to be lined, 25 have canopic pits in the SE corner and 13 have no canopic receptacle. Of these 13 chambers without receptacles, 2 were in the initial 5 mastabas of Cem. G 2100, 3 were in the last 5 mastabas of Cem. G 1200, 1 was in the first 8 mastabas added to Cem. G 4000, 5 of type 2 were in the second addition of 9 to Cem. G 4000, and the other 2 were in the two great mastabas, G 2000 and G 7510, both with chambers of type 2. Six of the chambers of type 2 were unfinished, in that, although the lining had been designed, it was never built.

Shaft type 3 (unlined) begins in the Eastern Field with 7 large chambers. In these were introduced two new types of canopic receptacle, the recess in the east end of the south wall and the built canopic chest. Two chambers had the canopic pit in the SE corner, 3 had a canopic recess in the east end of the south wall, 1 had a built canopic chest, and 1, unfinished and unused, had no canopic receptacle. Thereafter type 3 became the favourite type for large chambers made for the members of the royal family and was frequent down to Neferirkara of Dyn. V. In the four nucleus cemeteries, in the additions to them in the Cem. en Échelon and in G I S, we have recorded in the table above 42 shafts of type 3, of which 15 had canopic pits, 3 SE recesses, 1 SW recess, and 1 built chest, with a total of 20 canopic receptacles. The remaining chambers of type 3 (22 in number) had no receptacles. The proportion of canopic receptacles in chambers of type 3 had decreased considerably over the proportion in chambers of types 1 and 2.

Shaft type 4 is an obviously cheaper form of type 3. In one of the early chambers of this type, G 7130 B, the chamber with two rooms and a granite sarcophagus was obviously designed as type 3, but the roof was not cut to its designed height and the large chamber appears now as type 4. One other chamber of type 4 occurred in G 7310 B of the four northern twin-mastabas. Later in the reign of Chephren type 4 increased in use. In the mastabas mentioned under the preceding paragraph referring to type 3 we have 34 chambers of type 4. Of these, 5 had canopic pits, 4 had SE recesses, 3 had SW recesses, and 2 had built canopic chests, total of 14 canopic receptacles. Thus 20 had no receptacles. These chambers range well into Dyn. V, and show a further decrease in the use of canopic receptacles. In these same mastabas we have recorded 10 of type 5 and 23 of type 6. Both these types

present further degenerations of type 4 in form and size, and no chamber of these types in the mastabas under discussion had any canopic receptacle.

The total number of rock-cut chambers included above is 147 (100%), ranging in time from Cheops to Neferirkara. Of these, 59 (or 40.14%) had canopic receptacles. Of these 59 receptacles 45 (30.61%) had canopic pits in the SE corner, 11 (7.48%) had canopic recesses partly in the SE and partly in the SW corner, and 3 (2.04%) had a built canopic chest. The favoured form of receptacle is the rock-cut pit in the SE corner, used exclusively in the early chambers of types 1 and 2 and decreasing with the decreased use of canopic receptacles in the latter part of Dyn. IV and in the early Dyn. V. It is to be noted that many large chambers of important persons (including members of the royal family) have no receptacles. I suggest that some or most of these had wooden canopic chests placed on the floor of the chamber in the SE corner. It is also to be noted that some of the recesses were large enough to receive a wooden or stone canopic chest. The 147 chambers used here, it is to be remembered, do not include about 35 shafts partly in the Cem. en Echelon and partly in Cem. G I S, but it is improbable that the additions of these chambers would affect vitally the facts here outlined.

b. Coffin-pits

In a small proportion of the chambers of all types and periods a pit was sunk in the rock along one of the walls (usually the west wall) with its axis N-S. These pits present two clearly distinguished types, the open pit and the roofed pit. In Dyns. V and VI the roofed pit is seen fully developed as a 'burial pit', a substitute for a coffin. The open pit appears in the latter part of the reign of Cheops and continues in use during the remainder of the period covered by the Giza Necropolis. It is usually wider than the 'burial pit', and as examples have been found which actually contained coffins, the open pit has been designated a 'coffin-pit'. The earliest coffin-pit appears to be that in G 7120 A, the burial-place of Prince Ka-wab. In this the great red granite sarcophagus was found firmly fixed and protruding only about 0.15 m. above the floor of the chamber. The object of the coffin-pit was to prevent the coffin being overturned on the floor of the chamber, an operation which would have removed the lid almost automatically. The list of coffin-pits in the six nucleus cemeteries is given below. The list of coffin- and burial pits in the later mastabas will be given in its proper place.

The list of the coffin pits is as follows:

- (1) G 7120 A: Prince Ka-wab; granite coffin tightly fitting in coffin-pit; coffin 225 × 100 cm., and 90 cm. high; coffin-pit, 240 × 120 cm., and 75 cm. deep.
- (2) G 7430 A: Prince Min-khaf; granite coffin in Cairo Museum, 208 × 111 cm., and 80.5 cm. high; coffin-pit, 295 × 130 cm., and 72 cm. deep; the pit is now very broken, especially on the east, apparently by the removal of the coffin.
- (3) G 7430 B: no coffin found; coffin-pit, 232 × 98 cm., and 86 cm. deep; no coffin is known which might be assigned.
- (4) G 7810 A: no coffin found; coffin-pit, 2.5 × 1.15 cm., and 0.5 cm. deep.
- (5) G 7690 B: no coffin found; coffin-pit, 216 × 95 cm., and 105 cm. deep.
- (6) G 4430 A: sealing of Chephren; no coffin was found; coffin-pit, 230 × 100 cm., and 15 cm. deep.
- (7) G 4940 B: Seshem-nofer; no coffin found; coffin-pit, 277 × 120 cm., and 50 cm. deep.
- (8) G 5030 B: no name in chapel; no coffin found; rough coffin-pit, 240 × 83 cm., and 65 cm. deep.
- (9) G 5080 A: wife of Seshem-nofer; no coffin found, but 2 coffins in pit B; coffin-pit, 265 × 125 cm., and 75 cm. deep.

- (10) G 5190 B: sealing of Mycerinus; no coffin found; coffin-pit, 230 × 85 cm., and 50 cm. deep.
- (11) G 5180 B: no coffin found; coffin-pit, 225 × 88 cm., and 35 cm. deep.

In addition to these coffin-pits in mastabas, three other examples may be mentioned, one in the Second Pyramid containing the sarcophagus of Chephren, one in the Third Pyramid (empty), and the other in G III-a (containing a granite sarcophagus).

The small number of tombs with coffin-pits proved that this device was only occasionally and arbitrarily used. The use extends from the end of the reign of Cheops to the end of Dyn. IV, and indeed occurs sporadically thereafter. There are two cases, G 7120 A and G 7430 A, in which the coffin-pit had certainly contained a granite sarcophagus, but it is probable that most of the other pits had contained wooden coffins.

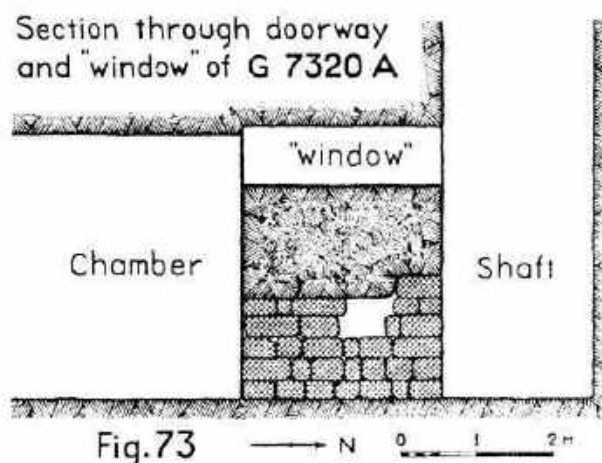
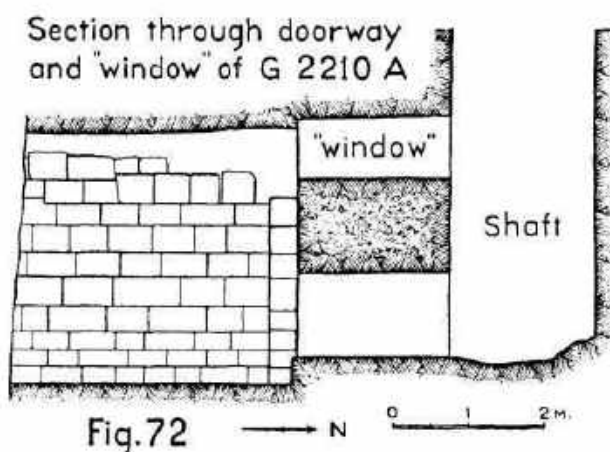
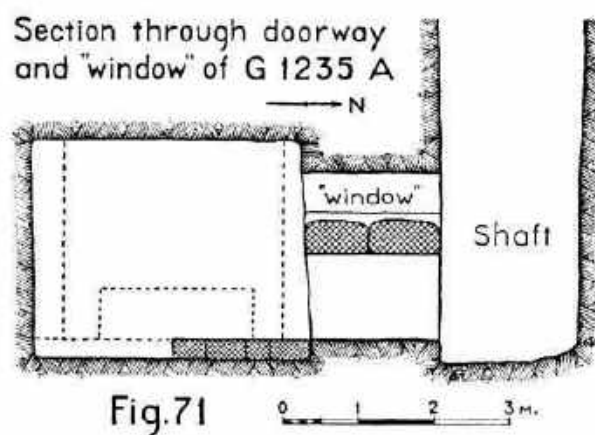
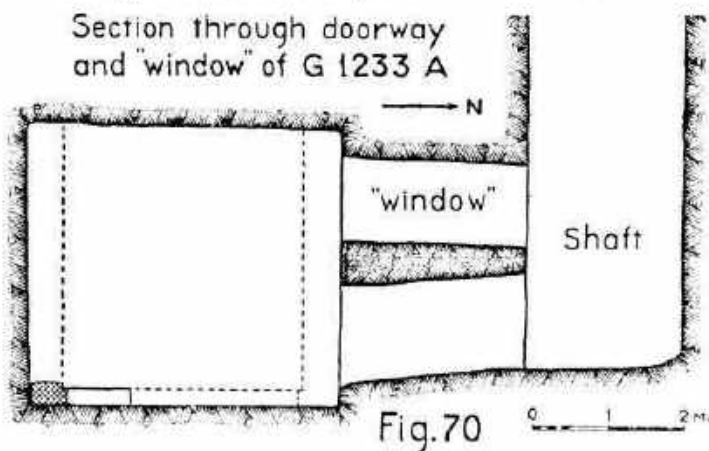
In connexion with the coffin-pit and the position of the coffin, it is to be remembered that a few early granite sarcophagi were set in a separate room (see, above, the two-room burial-chambers of type 3). In addition to these ways of dealing with the sarcophagus, there were in the later mastabas a few examples in which the sarcophagus was set in a recess in the west wall of the chamber. The coffin-recess actually occurs in substructures of type IV of Dyns. II and III and at Medum in the beginning of Dyn. IV. At Giza the earliest example is that in G 7130 B (Prince Khufuw-khaf) in a two-roomed chamber of type 4, and the recess (alcove) contained a smashed red granite coffin. Another early example is in G 4750 (Junker, tomb of Akhi). It is to be noted that the great chamber of the Third Pyramid was first designed with an alcove in the west end containing a coffin-pit. This alcove had a doorway with pilaster-jambs, drum, and architrave. It was abandoned unused, and a separate sarcophagus room was excavated and lined with granite. In the secondary mastabas of the Western Field isolated examples of coffin-recesses (alcoves) occur in Dyns. V and VI. The chamber of Senezem-ib-Yenti (G 2370 B) of type 9 is among the large chambers with a coffin-recess (alcove).

c. The 'Window' between Shaft and Chamber

It has been noticed that in some cases there was a passage cut through the rock wall above the entrance passage from the shaft to the north wall of the chamber. This opening has been termed a 'window', and several explanations have been offered of its function. The cases are as follows:

- (1) G 1233 A: 'window', horizontal rock-cut opening, 105 cm. high and 108 cm. wide; same width and length as passage; opens at roof-level; probably blocked on inside by chamber lining; see Fig. 70.
- (2) G 1235 A: the entrance passage from shaft to chamber was originally cut to a height of 178 cm., with the roof only a little below roof of chamber; during the construction of the lining, the entrance passage was constructed in the lower part of the original cutting by inserting roofing-slabs at a height 105 cm. above the floor of the passage; between these roofing-slabs and the roof of the original passage was a space (window) 50 cm. high, but this was blocked on the inside by the lining of the chamber; see Fig. 71.
- (3) G 2210 A: 'window' similar to G 1233; 200 × 95-70 cm.; height, 85-65 cm.; was blocked outside by masonry, but not by the lining on the inside as this was unfinished; see Fig. 72.
- (4) G I S 9 B: reported by Professor Junker, but without details; chamber unlined.
- (5) G 7320 A: 'window' similar to G 1233 A, opening in chamber only half the width; passage not straight but inclined to the east; 75 cm. high and 90 cm. wide (with opening in chamber 50 cm. wide); unlined chamber; see Fig. 73.

It is obvious from the first three examples that those 'windows' were blocked with masonry on the inside by the lining of the tomb and on the outside by the rougher masonry, and had therefore some function connected with the excavation of the chamber. I have mentioned above the difficulty presented by the cutting of chambers with passage entering the chamber low down in the north wall. The three first examples noted above would have permitted the cutting of the chamber with downward strokes as in the case of the chambers with high drops between passage and floor. In the case of G 1235 it would appear as if the original intention had been to make a chamber of type 1 br with high drop and



that this was converted later into a chamber of type 1 bl with low drop by cutting the passage and roofing it artificially. Whether the other cases also represented the beginning of an attempt to cut chambers of high-drop types or not is difficult to determine. It is equally possible that in the other cases the window was cut to facilitate the cutting of the chamber and the passage lower down to give convenient entry to the coffin. The examples at Giza constitute only about 3.4% of the total number of the recorded shafts (147) dealt with above. Thus the 'window' distributed in time from the reign of Cheops to that of Mycerinus does not represent a common practice and is, I believe, certainly to be interpreted as a device to facilitate the cutting of the chamber.

d. The Turning Recess in the North Wall of the Shaft

In a number of more important tombs which contained large stone sarcophagi the north wall of the descending shaft contained a large recess used to facilitate the turning of the coffin at the bottom of the shaft in order to move it into the entrance passage and so into the burial-chamber. Three other devices are also observable, (1) the cutting away of the roof of a horizontal passage at the outer end

to enlarge the height of the opening of the horizontal passage, (2) the use of the sloping passage, and (3) the cutting of a very high horizontal passage. In a few cases in which the coffin was small, the 2-m. shaft was large enough to permit the turning of the coffin and even its lowering in a horizontal position. In general the coffin appears to have been lowered down with the open side of the box towards the south. When it reached the bottom of the shaft, the lower end was swung inwards to the mouth of the passage and the upper end lowered northwards, until the box rested in a horizontal position when the passage was horizontal, and in a sloping position when the passage was sloping. The box was lowered empty and the lid lowered by a separate operation.

Each of the two parts of the coffin, handled separately, was lowered by means of ropes passed around great beams laid across the mouth of the shaft. In the tomb of Hetep-heres I these beams were set in shallow emplacements cut in the rock around the opening. The heavy ropes were passed around the box vertically and horizontally, forming a sort of bale, and probably the bearing surfaces of the rope against the coffin were padded (as we found advisable in lifting these same coffins to the surface). In the preliminary lowering, the ropes (2-4, knotted at the end of the box) probably bore on one edge of the pit-mouth until the coffin hung suspended in the pit with its bottom side against, or close to, the north wall of the shaft. If a medial beam was used, the shift from the bearing on the edge to the bearing on the beam was probably made at this point by taking two (?) of the ropes over to the south of the pit, and when these were firmly held, the other two were passed under the beam and brought back over it to the north. The ropes must have been very stout (probably 2 inches or more in diameter). The number of men required is difficult to calculate exactly, but certainly 100 men (25 to each of 4 ropes) could have lowered the heaviest of the coffins with no great exertion. The lowering of the lid, much less heavy than the box, would have been a comparatively easy operation. The lowering of the body in a wooden coffin, which fitted inside the stone coffin, took place at the burial, and in these 2-m. pits such a coffin could have been lowered horizontally.

After the coffin had been turned at the bottom of the shaft it was right side up, with its long axis N-S, and lay either horizontally or in a sloping position parallel to the floor of the entrance passage. The free space between the sides of the coffin and the sides of the passage was usually about 10 cm. or more, while that between the top of the box and the roof of the passage was greater (sometimes over a metre). There was room enough for ropes to pass around the coffin and to be manned by a small gang inside the large chamber, but probably the greater part of the work was done by leverage. For this purpose it was necessary to raise the coffin by placing under it pieces of wood or of stone or stone balls (spherical hammer-stones), so that the ends of the wooden levers could be inserted under the edge of the coffin and the friction decreased. In removing the coffins we placed them on wooden platforms with the battens on the upper side and placed short iron cylinders (rollers) under the platform so that the whole coffin could be easily moved by pushing, pulling, and leverage. It took from one to three working days to get the coffin moved out with one end projecting into the shaft. In this position it was roped and the rope passed around a multiple pulley suspended on a great wooden tripod above the pit, and by this pulley it was brought to the surface with its lower end clear of the mouth of the pit. The lower end was then swung to one side or the other as convenient until the coffin again rested horizontally on the ground. The whole operation took from three to five days and required about twenty men. We often laid down a track of two wooden beams from chamber to shaft to facilitate the action of the rollers.

The introduction of the coffin in ancient times was certainly easier than its extraction. When the passage was sloping the descent of the coffin would have been greatly facilitated and could have been done without the assistance of balls or rollers until the coffin had reached the horizontal floor of the

chamber. When the passage was horizontal the introduction of the coffin would hardly have been effected without placing something under the coffin to permit the use of levers. Rounded hammer-stones were found throughout the cemetery in the debris of the shafts and other debris, but definite evidence of their use is very rare:

- (1) G 7000 X: the secret tomb of Hetep-heres I; the alabaster coffin had been moved into the chamber and stood on the east side with its northern end about 60 cm. from the doorway; it had stood on boards and under the boards was a hammer-stone.
- (2) G I S 1 (Junker): a stone ball was found under the coffin, which was in its usual position along the west wall of the chamber.

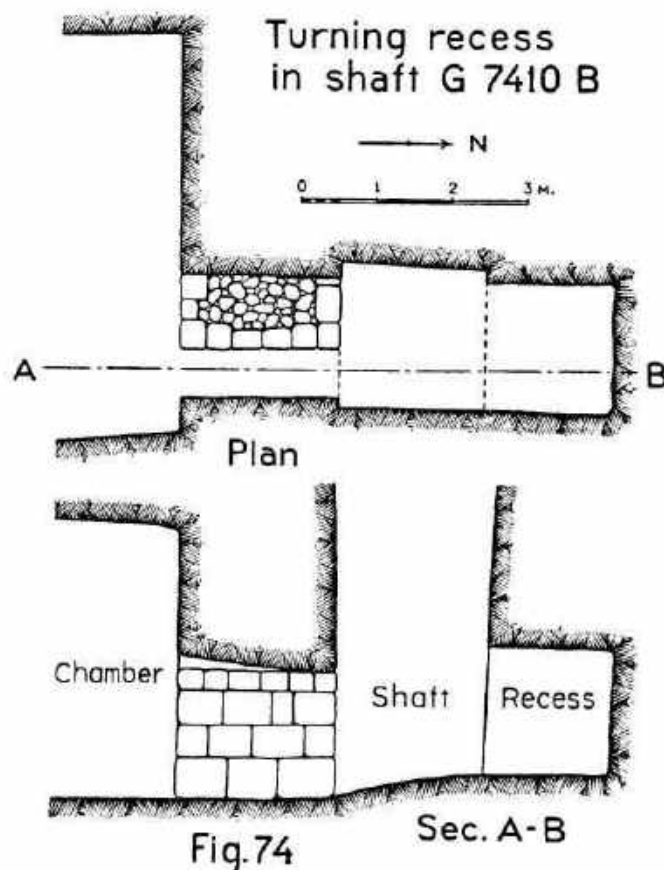


Fig. 74

Sec. A-B

The list of shafts with turning recess in the north wall is as follows:

- (1) G 7120 A: recess, 185 cm. wide, 135 cm. high, and 105 cm. deep; horizontal roof: coffin-pit; lid recess, 230 × 50 cm. high and 60 cm. deep.
Coffin, red granite, 225 × 100 cm., and 90 cm. high.
- (2) G 7310 B: recess, 175 cm. wide, 205 cm. high, and 100 cm. deep; horizontal roof: passage same height as room, 207 cm. on shaft side, and 210 cm. on chamber side.
Broken red granite coffin, 238 × 120 cm., and 106 cm. high.
- (3) G 7410 B: recess, 165 cm. wide, 160 cm. high (level with passage), and 160 cm. deep; horizontal roof: passage 157 cm. high outside, 187 cm. inside.
Coffin, red granite, 225 × 95 cm., and 84 cm. high; see Fig. 74.
- (4) G 7420 A: sloping passage; recess, 210 cm. wide, 250 cm. high, and 170 cm. deep; the roof slopes upwards towards north and the floor entering at 18 cm. above floor of passage has, at a depth of 135 cm., a step rising 65 cm.; this peculiar form was adapted to turning a sarcophagus into the sloping passage; no trace of sarcophagus was found in the chamber,

which appears to have been unused; sloping passage, 185 cm. high on outside and 175 cm. on inside.

- (5) G 7130 B: turning recess in north wall of shaft at bottom, 205 cm. wide (E-W), 180 cm. deep (N-S), and 285 cm. high with roof sloping slightly upwards to north; passage horizontal floor, 205 × 112 cm. and 235-247 cm. high (with roof sloping slightly downwards from shaft to chamber).

Granite sarcophagus, 225 × 86 cm., and 92 cm. high.

- (6) G 7430 A: unlined chamber; horizontal passage with roof cut away at northern end; recess, 160 cm. wide, 175 cm. high, and 160 cm. deep; roof horizontal.

Coffin-pit on west side of chamber, 295 × 130 cm., and 72 cm. deep; lid recess in west wall at floor-level, 247 cm. long, 63 cm. high, and 36 cm. deep; this indicates a lid less than 247 cm. long, a box not over 85 cm. high.

Red granite coffin of Min-khaf, 208 × 111 cm., and 80.5 cm. high.

- (7) G 7650 C: turning recess in north wall of shaft begun but left incomplete, 75 cm. wide, 55 cm. high, and 10 cm. deep; passage with sloping roof, with opening on pit side, 225 cm. high (to bottom of shaft), and 265 cm. to horizontal floor of passage.

Red granite sarcophagus, 235 × 103 cm., and 88 cm. high.

- (8) G 7550 B: recess, 145 cm. wide, 165 cm. high, and 110 cm. deep; horizontal roof; at opening, floor of recess level with floor of shaft, and at 55 cm. from shaft, a step up 100 cm. high; floor of shaft and passage sloping downwards; opening of passage in shaft 195 cm., and inside 215 cm.; canopic pit, no coffin-pit.

- (9) G 7760 B: recess, 145 cm. wide, 150 cm. high, and 78 cm. deep; horizontal roof; floor 75 cm. above floor of passage; horizontal passage, 167 cm. high on pit side and 178 cm. on room side.

Red granite sarcophagus, Min-dedef: 216 × 92.5 cm., and 81.5 cm. high.

- (10) G I S 2 B (Junker): recess; granite sarcophagus, Ka-m-nofret.

- (11) G I S 6 A (Junker): recess in north wall of shaft; granite sarcophagus.

- (12) G 4750 A (Junker): recess, 270 cm. wide, 150 cm. high, and 160 cm. deep; roof horizontal; floor at floor-level; no canopic pit, no coffin-pit; height of horizontal passage, 150 cm.

White limestone sarcophagus, fragments, 220 × 105 cm., and 75 cm. (?) high.

- (13) G 5110 A: recess, 105 cm. wide, 85 cm. high, and 74 cm. deep; horizontal passage at floor-level, with minimum width of 129 cm. high on pit side; canopic pit in SE corner; no coffin-pit.

Red granite coffin with flat lid, 1.86 × 0.85 m.; 0.95 m. high without lid; thickness of lid 0.21 m.; Prince Duwanera.

Of the 13 shafts with turning recess in the north wall, 10 contained granite sarcophagi, 1 a limestone sarcophagus, and 2 no trace of a coffin (G 7420 A, the husband of Queen Meresankh II, and G 7550 B, Prince Duwa-ne-hor). These stone sarcophagi were all of large size, and with one exception of heavy granite. Nine of the shafts with turning recess are in the Eastern Field dated from the last years of Cheops to the end of the reign of Chephren. Two are in the Cem. G I S, dated to the reign of Mycerinus, and 1 in Cem. G 4000 (G 4750, with limestone coffin), probably dated later than Cheops. One other in the Western Field, G 5110, is dated to Mycerinus.

The 13 shafts with turning recess were obviously intended for the use of stone sarcophagi, but a number of stone sarcophagi were found in shafts which had no turning recess. In all these cases the sarcophagus was either so small that it could be introduced through the 2-m. shaft into the passage

without difficulty, or the passage from shaft to chamber was of such a form and size as to permit the turning operation without cutting a recess in the north wall of the shaft. Among the 44 early mastabas of the Western Field 22 presented definite evidence that they had once contained white limestone sarcophagi distributed in the three nucleus cemeteries as set forth in Chapter X. None of these seems to have presented any difficulty in introducing the coffin into the chamber. The one shaft, G 4750, which had a turning recess and a limestone coffin was one of the latest of these early mastabas and was probably used after the reign of Cheops. In the Eastern Field one of the shafts in the twin-mastabas, G 7210 B, also had a plain limestone sarcophagus of this same type, and the height of the passage was clearly sufficient to permit the turning without cutting a recess. Six other shafts without turning recess also contained limestone coffins, G 7060 B, G 7070 B, G 7560 B, G I S 7 B, G I S 8 A, G 4710 A, and G 5080 B. The latter chamber contained two coffins (one of granite and one of limestone). There are seven granite sarcophagi in shafts which had no turning recess, G 7220 A, G 7660 B, G 2150, G 5080 B, G I S 3 A, and G I S 8 B. As far as measurements are available (4 out of 7), the coffin could have been easily introduced without the use of a turning recess. In G 5080, in which the height of the horizontal passage is unusually low (110 cm.), we actually removed the granite coffin from the chamber and turned it up the shaft without any difficulty.

There are a number of large chambers in important mastabas which were found empty but might have been expected to contain stone coffins. They had shafts and passages of such size and form as would have admitted a large stone coffin without a turning recess. These chambers are of importance because of the known existence of several granite coffins excavated at Giza without any record of their exact provenience. I have noted eleven such chambers, G 7320 A, G 7230 B, G 7330 B, G 7430 B, G 7510 B, G 7050 B, G 7750 B, G 7690 A and B, G 5080 A, and G 5230 A. With the two empty chambers with turning recess (G 7420 A and G 7550 B) the total of empty chambers is brought to thirteen. Against these thirteen chambers we have three granite sarcophagi in the Cairo Museum:

- (1) Cairo 36 (No. 48, 853): red granite panelled coffin, assigned by me to G 5230.
- (2) Cairo 42: Prince Horbaf; of such size that it could have been introduced only in G 7420 of the 13 shafts known to me.
- (3) Cairo 44: Khufuw-anekh; red granite panelled; cannot be assigned to any of the chambers known to me.

By considering the names on the two inscribed coffins and the condition in which we found the chambers, the list of thirteen chambers may be reduced to five, but no definite assignment can be reached for either of these two coffins. They may have been from shafts not excavated by us or perhaps not yet excavated during the systematic clearing of the necropolis.

e. The Blocking of the Doorways of the Burial-chambers

After the burial, in all tombs, the entrance to the burial-chamber was closed as securely as the means of the owner permitted. The blocking of the chambers of type 1 was the most elaborate and presented the form from which all the cheaper and later types of blocking were developed. I take up, therefore, first the masonry and portcullis blocking (designated blocking type I) which was used in chambers of shaft type 1 and thereafter the other types of blocking developed from type I.

(1) *Masonry Blocking and Portcullis Slab: Blocking Type I*

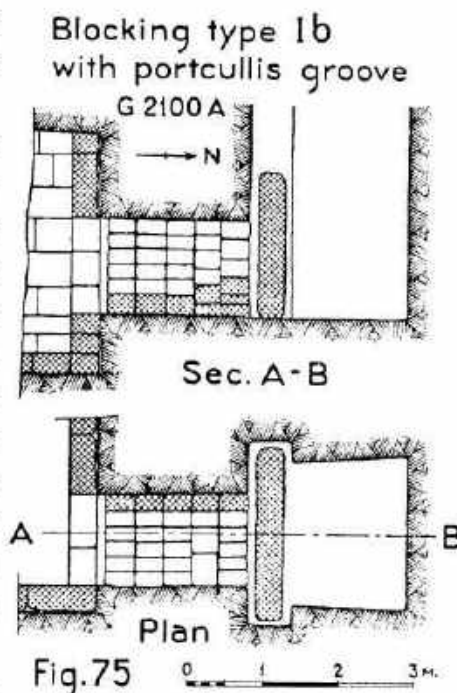
In a certain number of the early shafts at Giza the blocking of the entrance to the chamber was distinguished by the use of a very large slab set against the doorway outside and called a 'portcullis'

slab. It was let down from above as the last act in the blocking of the chamber previous to the filling of the shaft. The portcullis slab as a blocking for the burial-chamber has a long history in Egypt extending from Dyn. I to the reign of Cheops (see Reisner, *Tomb Development*, p. 185). In the substructures of types I-IV found in c.b. mastabas, the blocking of the doorway behind the portcullis slab was of well-laid c.b. of a thickness corresponding to the length of the passage or doorway. In Dyns. I-III the portcullis slab rested as a rule in grooves, one on each side of the stairway outside the doorway (portcullis grooves). The portcullis slab, with or without grooves, I designate type I. As the earliest blocking inside the doorway was of c.b., I designate the portcullis slab with interior blocking of c.b. as blocking type I a. It was only with the introduction of the stone mastaba that the doorway behind the portcullis slab began to be blocked with dressed blocks of stone set in sulphate of lime. This was the blocking used in the earlier shafts at Giza and is designated blocking type I b.

The entrance to all the burial-chambers of types 1 and 2 in the Western Field opened from 2-m. shafts. Whether they were horizontal or sloping, the whole length of this connecting passage was packed solid with small limestone blocks laid in plaster of Paris (sulphate of lime). In a few cases this packing consisted of a wall at the inner end of the passage and another at the other end (shaft side), while the space between had been filled with small stones and plaster or rubbish. This blocking of dressed stones is called b blocking, or b (filled). The blocking in all the shafts had been penetrated by plunderers and more or less destroyed. These broken blockings or traces of them were found in the great majority of cases, and such a blocking may be assumed for all the large chambers opening from 2-m. shafts in which evidence of portcullis slabs was observed.

The portcullis slab stood upright against the masonry blocking and covered the rock-surface beside and above it. A number were pierced through the upper part with two or three holes obviously for the attachment of the ropes used in lowering the slabs. In five tombs in Cem. G 2100 the shaft had a rectangular groove at the southern end of the eastern and western sides down which the portcullis slab was lowered. The list of tombs with portcullis grooves is as follows:

- (1) G 2100 A: grooves 55 cm. wide, depth 25 cm.; in masonry and rock; portcullis slab, 250 cm. wide, 160 cm. high, and 50 cm. thick; doorway, 123 cm. wide and 126 cm. high; see Fig. 75.
- (2) G 2110: grooves 50 cm. wide, depth 35 cm.; in masonry and on the west in rock; portcullis slab, 225 cm. wide (?), 230 cm. high (?), and 40 cm. thick; doorway, 185 cm. wide and 205 cm. high; half masonry blocking preserved.
- (3) G 2120: grooves on east, 60 × 25 cm.; on west, 50 × 20 cm.; in masonry only; portcullis slab, 155 cm. wide, 165 cm. high, and 32 cm. thick; doorway, 120 cm. wide and 120 cm. high.
- (4) G 2130: grooves on east (at top), 47 × 22 cm., (at bottom) 40 × 25 cm.; on west at top, 50 × 25 cm., and at bottom 40 × 30 cm.; in masonry and rock; portcullis slab broken up; doorway, 110 cm. wide and 125 cm. high.
- (5) G 2210: grooves, 43 cm. wide on east and 46 cm. wide on west, depth on east 35 cm. and on the west 38 cm.; in masonry and descending 7.9 m. in rock (total depth of shaft in rock, 21.7 m.); no slab was found; doorway with penetrated blocking, 115 cm. wide and 110 cm. high.



These five tombs are from a block in the western end of Cem. 2100 and are designated the five initial cores of that cemetery. I have concluded elsewhere that the initial mastabas of the three nucleus cemeteries in the west were executed by three different groups of workmen, and the fact that all the mastabas with portcullis groove are in one cemetery is a confirmation of that conclusion. The portcullis groove was introduced in the stairway tombs of Dyn. I and occurred also in the deep stairway tombs of Dyns. II and III (see *Tomb Development*, p. 185). The portcullis groove was also used at Medum in tombs in the reign of Sneferuw and Cheops.

It will be noted by the measurements of the portcullis slabs in the above tombs that the use of portcullis grooves required a slab of enormous width, the lowering of which must have presented great difficulties. The door openings in most cases were only half the width of the slab, and it was obvious that the opening could be covered quite as effectively by a stone of much less size. In fact the plunderers usually broke off the upper east corner of the slab in order to reach the blocking of the doorway and thus the wide slab presented no greater difficulty than one of more narrow form. Probably as a result of these considerations, the grooving of the shaft was abandoned and a portcullis slab of lesser width used in Cems. G 1200 and G 4000. In the thirty-seven shafts with lined chambers, the proportion of measurable slabs found was not large, probably because they had been broken up by those who stripped the chambers of their linings in order to gain room for their operations. I assume that the great majority of all the large, high burial-chambers were closed on the outside with portcullis slabs. The following list of measured slabs will give an idea of their size and form:

- (6) G 4000: north shaft; portcullis slab; 180 cm. wide, 300 cm. high, and 70 cm. thick; 3 rope-holes through upper part of slab.
- (7) G 4250: portcullis slab; 140 cm. wide, 170 cm. high, 45 cm. thick; 3 rope-holes through upper part of slab.
- (8) G 4350: portcullis slab; 165 cm. wide by 160 cm. high and 45 cm. thick; 2 rope-holes.
- (9) G 4360: portcullis slab; 135 cm. wide by 160 cm. high and 30 cm. thick; 2 rope-holes.
- (10) G 4460: portcullis slab; . . . cm. wide by 170 cm. high and 50 cm. thick; 2 rope-holes.
- (11) G 4450: portcullis slab; 158 cm. wide by 170 cm. high and 38 cm. thick; 3 rope-holes.
- (12) G 4560: portcullis slab; 160 cm. wide by 157 cm. high and 40 cm. thick; 2 rope-holes.
- (13) G 4550: portcullis slab; 165 cm. wide by 220 cm. high and 42 cm. thick; 2 rope-holes.
- (14) G 4340: portcullis slab; 150 cm. wide by 200 cm. high and 37 cm. thick.
- (15) G 4440: portcullis slab; 140 cm. wide by 140 cm. high and 35 cm. thick; 2 rope-holes; see Fig. 76.
- (16) G 4540: portcullis slab; 143 cm. wide by 165 cm. high and . . . cm. thick; 1 rope-hole, perhaps 1 broken away.
- (17) G 4430: portcullis slab; 125 cm. wide by 150 cm. high and 45 cm. thick.

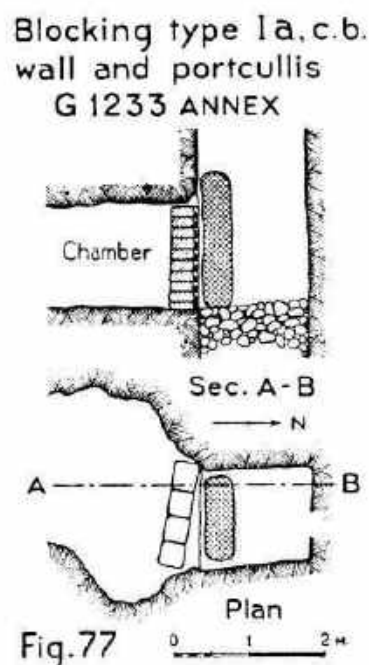
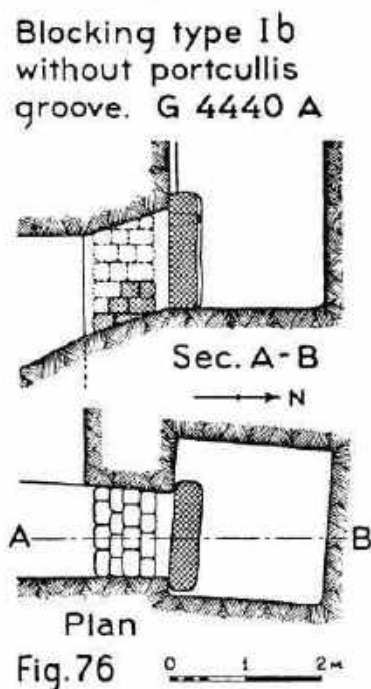
The facts lead to the conclusion that all the thirty-seven early chambers in Cems. G 4000 (22), G 2100 (5), and G 1200 (10) were blocked with portcullis slab and interior blocking of type I b. The evidence for the blocking of the great chambers of type 3 in the Eastern Cemetery was very meagre, but is sufficient to make plausible the conclusion that those in the five finished twin-mastabas were blocked in the same way. Two of the shafts in annexes, G 1223-annex and G 1225-annex, both of type 3 and later than the main mastabas, were also blocked with portcullis slabs and interior blocking of masonry.

The portcullis slab continued to be used in rare cases to the end of Dyn. IV, but the interior blocking

behind the slab in these later examples was of c.b. (that is, blocking type I a), obviously a cheaper form. Blockings of type I a were recorded in the following shafts:

- (1) G 1233-annex: type 6 b (1); probably Chephren; see Fig. 77.
- (2) G 1325 A: type 5 b (1); late Dyn. IV.
- (3) G 1206 A: type 5 a (1); probably Chephren or Mycerinus.
- (4) G 3090 C: type 5 c (4); Dyn. V.
- (5) G 3000 D: type 5 c (5); early Dyn. V; small slab.

These five occur in a cemetery of 277 mastabas (830 shafts) in the Western Cemetery and later than



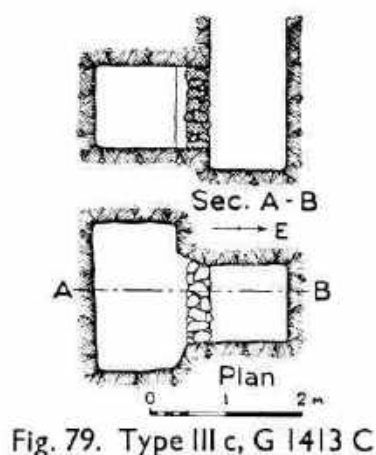
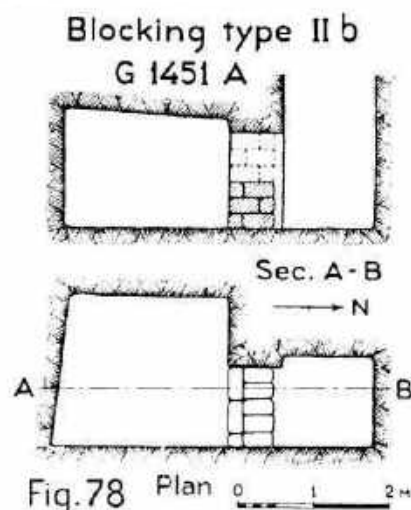
the nucleus cemetery G 1200. The last two slabs, which may be dated to Dyn. V, are quite small and probably represented a different type of blocking.

It is clear that the use of the portcullis slab became less frequent in the latter part of Dyn. IV. The cause lies in the decreasing means of the community served by the necropolis. The blocking with portcullis slab cost a good deal in labour and provided an ineffective bar to the entry of thieves. The use of the portcullis slab practically ceases in Dyn. V at Giza. On the other hand, the use of burial-places of type 9 in the latter part of Dyn. V and in Dyn. VI was accompanied by a different type of blocking, which may be called 'pyramid blocking', which was much more costly and apparently more secure than any other type of blocking. The characteristic feature of shaft type 9 is a long, sloping passage by which the burial-chamber was entered. This passage was filled throughout its length with long blocks of stone ('plug-stones'). Unfortunately most of the passages were lined and roofed with slabs and the space over the plug-stones was easily penetrated. Every example which we found of type 9 with built passages had been thus penetrated, leaving the plug-stones in place.

(2) *Blockings Developed from Type I: Blockings Types II-VI*

The purpose of the blocking of the entrance to the chamber was to secure the burial against violation, to prevent the filling of the shaft from entering the chamber, and also no doubt to keep rain-water from ruining the burial and equipment. No type of blocking ever prevented violation, but all well-made blocking did keep out the filling and the rain-water, except those blockings which were bound with mud plaster.

The most effective blocking, type I, consisted of an interior blocking which filled the long connecting passage between shaft and chamber and of an exterior blocking, the portcullis slab, placed against the opening in the side of the shaft. This blocking was used for shafts of types 1 and 2 and the early large shafts of type 3. When the portcullis slab was discarded, the interior blocking persisted and is here labelled blocking type II. This type was primarily adapted to forms of shaft which, having a long connecting passage (types 3 and 4), permitted a thick interior blocking, but it was also used in some shafts with short connecting passage (type 5) or no passage at all (type 6) by building the blocking inwards to fill the end of the chamber.



Blocking type II: thick interior blocking as in type I but without the portcullis slab:

- II a: with thick c.b. wall; used in types 3, 4, and more rarely in type 6.
- II b: thick interior blocking of masonry and plaster; used almost exclusively in shaft types 3 and 4; see Fig. 78.
- II b (filled): thick blocking with two masonry walls filled in between with rubble and plaster or even rubbish; used in types 3 and 4.

With the introduction of the shaft type 5 with short connecting passage, the interior blocking still continued to be the natural method of blocking, but the wall was necessarily reduced in thickness. Thus the thin interior blocking (type III) came into use. It must be remembered, however, that a few shafts of type 5 were still blocked with thick walls and that the thin wall once introduced was not confined to type 5.

Blocking type III: interior thin blocking wall:

- III a: c.b., vertical; used rarely in types 4, 5, and 6, and more frequently in type 8.
 - (1): c.b. laid with mud plaster and covered outside with mud plaster.
 - (2): laid dry.
- III b: interior vertical; masonry; used in types 4 and 5; Dyns. IV-VI.
 - (1): bound with gypsum.
 - (2): bound with mud plaster.
 - (3): built dry.
- III c: interior wall of rough stones; used in types 3-6; Dyns. V-VI.
 - (1): bound with gyps.
 - (2): bound with mud plaster; see Fig. 79.
 - (3): laid dry, or with mortar washed away by rain.

III d: interior vertical wall built of rubble; used in types 5, 6, and 8; Dyns. V-VI.

(1): bound with gyps.

(2): bound with mud plaster.

(3): built dry or with mud plaster washed away by rain-water.

III e: thin vertical interior wall consisting partly or wholly of vertical slabs; appears late in Dyn. V and not extensively employed; used in type 5.

(1): bound with gyps.

(2): bound with mud.

The last-named variation of the thin interior blocking was introduced after the use of the same construction in exterior blocking, and seems not to be directly derived from the portcullis slab. The opening to the chamber may be filled by one or more slabs resting on the rock floor or they may rest on one or two courses of masonry.

As shown above, the thick interior blocking (type II) was derived directly from the interior part of the old portcullis blocking and was peculiarly suited to the shaft types 3 and 4 with long connecting passages. The thin blocking, type III, was in turn adapted to the type 5 with short connecting passage, and arose no doubt out of the use of that shaft type. With the introduction of type 6 without any connecting passage, an exterior blocking became more practical owing to the unsuitability of the interior wall to resistance against the pressure of the filling of the shaft. A comparatively small number of the shafts of Dyn. V had vertical exterior blockings (type IV), but most of them presented a sloping surface on the pit side. These were either leaning blockings or wedge-shaped blockings. None of these later types occurs in the large mastabas of the six nucleus cemeteries, but I give here the variations of these exterior blockings:

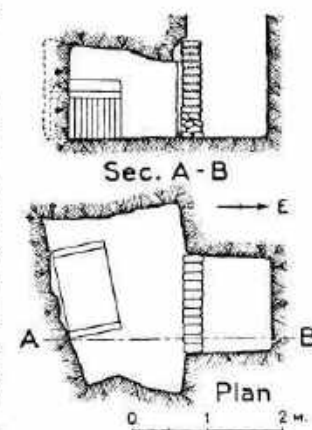


Fig. 80. G 1451 B II

Blocking type IV: exterior vertical wall:

IV a: c.b. wall; rarely used; see Fig. 80.

IV c: wall of rough stone used from the end of Dyn. IV to Dyn. VI (end).

(1): bound with gyps.

(2): bound with mud plaster.

(3): laid dry or with mud plaster washed out by rain-water.

IV e: exterior vertical wall consisting of vertical slabs.

IV e†: vertical slabs resting on horizontal masonry.

(1): bound with gyps.

(2): bound with mud plaster.

Blocking type V: exterior leaning masonry resting on shaft side above doorway:

V a: sloping c.b. wall; very rare.

V c: blocking wall of rough stones; small number of examples.

(1): bound with gyps.

(2): bound with mud.

(3): laid dry or mud plaster washed away by rain-water.

V d: leaning wall of rubble; rarely used.

(2): bound with mud.

V e: composed in whole or in part of leaning slabs with their upper ends resting on side of shaft above doorway; most frequent blocking in Dyns. V-VI.

V e†: with leaning slabs resting on floor or on debris covering the floor.

(1): bound with gyps.

(2): bound with mud plaster; see Fig. 81.

(3): laid dry or with mud plaster washed away by rain-water.

V e: leaning slabs resting on horizontal courses of stone.

(1): bound with gyps.

(2): bound with mud; see Fig. 82.

(3): laid dry or with binding not preserved.

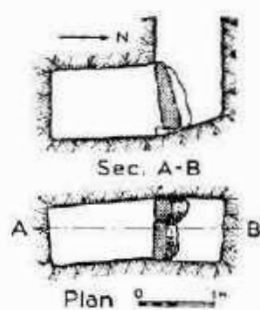


Fig. 81. G 1177 F

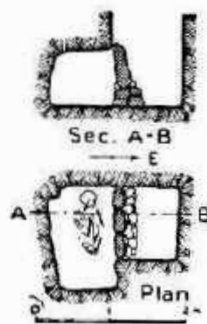


Fig. 82. G 1156 a A

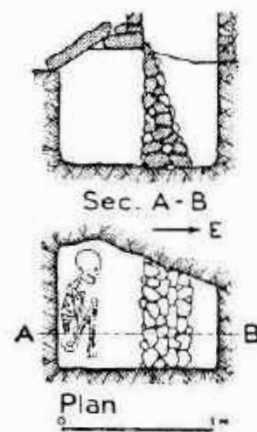


Fig. 83. G 1210 D

V ex: exterior blocking not reaching top of doorway and the space at the top closed by small leaning slabs.

(1): bound with gyps.

(2): bound with mud.

(3): with no binding preserved.

Blocking type VI: exterior wedge-shaped blocking decreasing in width from bottom to top and extending above the roof of the chamber:

VI a (2): built of mud bricks and bound with mud plaster.

VI c: built of rough stones.

(1): bound with gyps.

(2): bound with mud plaster; see Fig. 83.

(3): laid dry or with mud plaster washed away.

Blockings of type VI c may be thin or thick, in some cases nearly filling the bottom of the shaft.

VI d: built of rubble; thick or thin.

(2): bound with mud plaster.

(3): without plaster or mud preserved.

VI d†: rubble on horizontal courses of masonry.

(2): bound with mud plaster.

VI e: with edge-shaped blocking surmounted by leaning slabs.

(2): bound with mud plaster.

In order to give an idea of the use of these blocking types in the mastabas later than the six nucleus cemeteries, I give here a summary of their occurrence in 353 shafts of the Cems. 1000-1600 and 3000.

Blocking type I: 5 certain and 2 doubtful examples.

Blocking type II: 6 examples.

Blocking type III: 101 examples.

Total interior blockings, 114 examples.

Blocking type IV: 33 examples.

Blocking type V: 155 examples.

Blocking type VI: 51 examples.

Total of exterior blockings, 239 examples.

Sum total of interior and exterior blockings, 353 examples.

The leaning blockings of type V are the most numerous, 155, or 43.9%, and 140 are of the type variation with leaning slabs, 39.66%. Type III comes next in frequency with 101 examples, 28.61%. The older types I and II are infrequent, as the greater part of the mastabas are from Dyns. V-VI.

f. The Filling of the Shaft after Burial

Every large shaft found by us in the Giza Necropolis had been penetrated by grave-robbers, and a large proportion of those with lined chambers by thieves who stripped the chamber more or less completely of its fine white casing and pavement. In the Eastern Field many of the chambers had been re-used in the Ptolemaic-Roman period, and some of them (G 7130 B, G 7230 B, and G 7330 B) had been considerably altered by the cutting of *loculi* and extra chambers. Many shafts in the Eastern Field, and some in the Western Field, had been cleared out in quite modern times by excavators, mostly working illicitly. As a result the filling of the shaft as found by us varied considerably, but no shaft was entirely intact. Nevertheless, in the bottom of the shaft a few cubic metres of the original filling were often found intact. This original filling was usually clean limestone debris apparently resulting from the cutting of the rock shaft and chamber, and was fairly hard packed by time and the superincumbent weight. The character of this original filling was clearly shown by the fan-like dump-heaps piled up by the thieves when they threw the excavated shaft filling over the side of the mastaba into the street opposite the pit. These dump-heaps consisted of the same clean limestone debris as the original filling found in place, but necessarily loosened by excavation and dumping. The least amount was found in shafts in which the portcullis slab had been leaned northwards to gain access to the masonry blocking. Above this original filling the debris varied considerably according to whether the thieves had attempted to refill the shaft or not. In some cases the shaft had been left open and refilled by drift sand, a process that took some time and left traces of weathering on the upper part of the shaft. In other cases they raked back the filling which they had piled on top of the mastaba, and in these cases a certain amount of disturbed thieves' debris was found above the original filling. But it was seldom that they filled the shaft completely, and the upper part was filled with drift sand. When the shaft had been excavated in modern times the drift sand often contained pieces of newspaper and even tin cans. When the shafts had been cleared for re-use in Roman-Ptolemaic times they were kept open to permit the use of the chamber as a communal or family burial-place. All these re-used burying-places had been more or less plundered in modern times and were found filled with a very dirty, dusty sand mixed with *shawwabtis*, amulets, and fragments thereof.

These were the chief varieties of the filling of the shafts as found by us, but it must be remembered

that no two shaft fillings were alike. At the top we usually expected to find sand, but it was impossible to tell what lay under the sand. In a great shaft behind the offering-stela of Khnumenti, G 2374, we came on typical original filling in the mouth of the shaft and cleared downwards through a packed mass of this filling for 7 m., when the shaft terminated abruptly without a chamber and unused. In the case of the sloping passages filled with plug-stones, the thieves had usually tunnelled an entry through or over the roof of the passage, leaving the plug-stones in position, and only one of this type of burial-place, G 2381 A, was found intact. A large number of small shafts of all periods were found untouched by thieves.

The packing of the shaft with stones was a very unusual practice, found only in the tomb of Hetep-heres I. In the shaft of Hetep-heres the bottom of the shaft to a metre or so above the doorway was filled with well-laid small blocks of stone packed in plaster. Above this came a space in which blocks of stone and tubs of plaster seem to have been thrown into the shaft in confusion, but the upper 10 m. of the shaft were filled again with well-laid courses packed in plaster, as was the small stairway descending from the north into this part of the shaft. The mouth of the shaft was closed with irregular blocks of local limestone imitating in appearance the surrounding rock.

The mouth of the shafts does not seem to have been concealed except in the case of the Hetep-heres tomb, nor covered in any way except in G 5230 and perhaps the Mer-ib tomb (G 2100-annex). In G 5230 the mastaba was roofed with heavy blocks of nummulitic limestone continuously, and these blocks seem to have been laid over the mouths of both the shafts (A and B). G 2100-annex was roofed in a similar manner, but it is uncertain whether the roofing covered the mouths of the shafts.

The chambers, when the thieves had left the shaft open, had been partly filled by drift sand which filled the doorway and continued in a gravity slope through the passage and into the chamber, where it had spread out fan-like around the entrance. When the sand was removed, and in those chambers which were free of sand, the floor was found littered with the fragments of decayed wooden coffin, limestone coffin if any, pottery and fragments of pottery, and such other objects as the thieves had left ('thieves' debris'). When the white limestone of the floor and casing had been wholly or partially removed, this litter was badly trampled or entirely removed.

VII

THE FINISHED MASTABAS: CORES, CASINGS AND CHAPELS

I. DISTINCTION BETWEEN CORES OR FACED CORES AND CASED MASTABAS

THE distinction between the retaining wall of a mastaba, the facing of a core, and the casing requires some explanation. In cores of type II a the stepped wall of low courses is obviously a retaining wall which may or may not serve as a finished mastaba, as in the case of the c.b. mastaba from which it is derived. The cores of type II b provide an exact parallel to the c.b. mastabas built of solid brickwork. On the analogy of the c.b. mastabas each of these two types may be considered as finished mastabas which could be provided with a casing but required no casing to finish them. Both were built without any recess in the retaining wall for either a false door or an interior chapel. In this regard the parallelism with the c.b. mastabas at Medum fails completely. The offering-niche in those Giza mastabas which were left uncased was a simple niche constructed in the west wall of the exterior c.b. chapel, and in this the slab-stela with its table scene, titles, and name and lists of offerings was set in an emplacement which was cut in the stepped retaining wall of the mastaba. In Cem. G 1200 seven mastabas were used (uncased) with exterior c.b. chapels, and five of these had slab-stelae. Three others had been increased by additional core-work, leaving the slab-stela in the wall of the original core. In Cem. G 2100 two mastabas (G 2100 and G 2135) were thus used with c.b. chapel and slab-stela. G 2160, G 2170, used later than Cheops, appear also to have had c.b. chapels, but without slab-stelae. In Cem. G 4000 four of the five mastabas of type II b had stelae affixed in the retaining wall. One of these (G 4250) was completed with c.b. chapel, two (G 4160 and G 4260) with stone casing and exterior stone chapels, and the fourth (G 4150) with additional core-work and casing. Thus, of the twenty-six early mastabas of types II a and II b, eleven were finished with c.b. chapels and of these eight had slab-stelae. In view of these facts it is uncertain whether the cores of types II a and b were intended from the beginning to be cased or to be used as mastabas. The next type, III a, was built of massive masonry (like type IV i), but had been faced with stepped courses of exactly the same appearance as the retaining wall of core types II a and b. There are two examples in Cem. G 4000 that have the slab-stela in the stepped facing, not in the massive core. One of them was finished with a c.b. chapel and the other (G 4140) had an unfinished stone chapel and casing. Thus it is clear that types II a, II b, and type III a all had the same outward appearance and were used without any casing as often as they were cased. This low-course stepped facing of small blocks persisted in use as an actual casing in mastabas of late Dyn. IV, but in these the material was a better grey nummulitic limestone. In one case, G 2150, a core of type II a was cased in this way in the reign of Shepseskaf or a little later. The other examples are on independent sites and usually have a core of mud-plastered rubble.

From these facts I conclude that when the low-course stepped cores of types II a, II b, and III a were constructed they were intended to be used as mastabas and that the casings added later were in alteration of the original plan.

The cores of type IV present a similar problem. They were also filled cores like II a with a retaining wall of massive stones set in high-stepped courses. After the facing of core G 4350 (type III a)

the following massive cores (type IV i) were left unfaced. The slab-stela was fixed in the massive stepped wall as in types II a and b in a shallow emplacement cut in one of the courses. In Cem. G 4000 four cores in rows 5 and 6 had slab-stelae which stood exposed in niches in the west walls of c.b. chapels (as type II), while two others had c.b. chapels but no slab-stelae. The parallel between G 1200 and the rows 4 and 6 of Cem. G 4000 is very close. It appears as if after the facing of G 4350, to bring it in line with the types II a and b, the massive core itself was treated as a finished mastaba needing only the addition of a c.b. chapel to finish it. Nevertheless, it is probable that the massive cores of type VI i were intended to be either faced or cased. The outward appearance of these cores was very rough, in no way comparable to the neat outward appearance of the mastabas of types II a and b and III a. The fact that two cores were actually cased with small-stepped masonry proves that the Egyptians of that time felt, as we do, the lack of finish in these cores. I believe that the original intention was to face them and that a number of them by force of circumstances had been used without facing. Later, a number of them in row 4 were cased with white limestone as an improvement on the facing. All the early mastabas, five in number, which received additional cores had this massive core cased in white limestone. For convenience I designate all these constructions of types II a, II b, III a, and IV i as cores.

The alteration of cores of type IV i by breaking out a hole and reconstructing to form a recess for an interior chapel shows plainly a change of plan, and signifies that from this point at least a stone casing was intended. The construction of cores of type IV iii means that these cores were intended from the beginning to be cased and finished with interior stone chapels.

2. TYPES OF CASINGS

a. Classification of Casings

The casing used on the cores of the Western and Eastern Fields is of fine white (Turah) limestone and presents two types:

Casing x: finely fitted and smoothly dressed to a sloping surface: blocks of stone laid with the grain horizontal; see Fig. 84.

Casing y: similar appearance to x but with higher courses and with the blocks (or slabs) set with the grain slanting (parallel to the dressed face of the casing); see Fig. 85.

(Casings of mixed masonry, x and y, also occur.)

Other types of casing occur, but were constructed after the reign of Cheops, as follows:

Casing z: grey nummulitic limestone: small blocks set in low-stepped courses; see Figs. 86, 87.

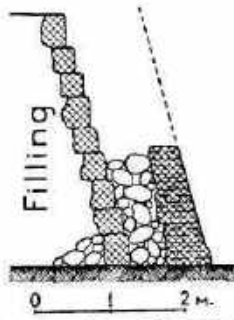
Masonry w: grey nummulitic limestone: great slabs set in high courses and roughly dressed to a sloping surface; see Figs. 88, 89.

Masonry u: grey nummulitic limestone: small blocks set in correspondingly low courses, to form a rough sloping surface; see Figs. 90, 91.

Masonry zu: late combination of z- and u-masonry: small blocks of nummulitic limestone: sloping-faced courses: narrow steps; see Fig. 92.

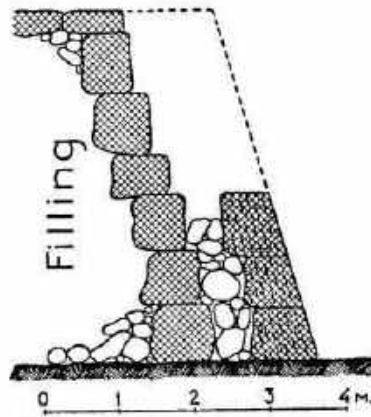
b. Distribution of Casings x and y

The x-casing is the most expensive, especially in its best examples. The y-casing required less stone measured by its cubic contents, and with its higher courses rose more rapidly and was more easily dressed. The x-casing was used in the Zoser enceinte at the beginning of Dyn. III. It may be that it was the earlier in use even in mastabas and that the y-casing was a cheaper substitute for the x-casing,



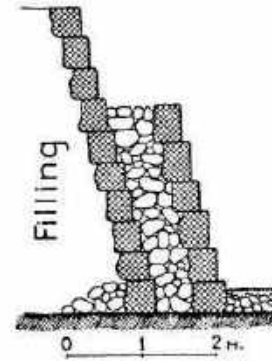
Casing type X G5080

Fig. 84



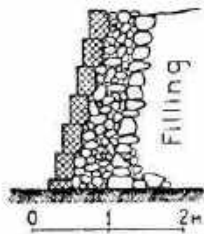
Casing type Y G7350

Fig. 85



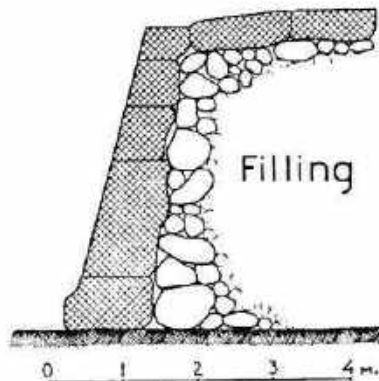
Casing type Z G2150

Fig. 86



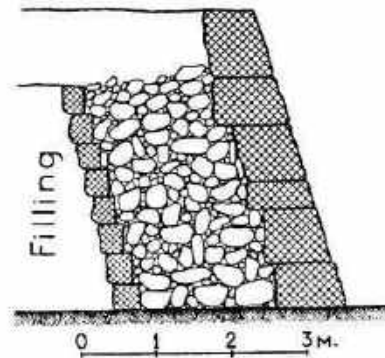
Casing type Z
G1020

Fig. 87



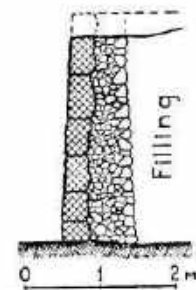
Casing type W G7550

Fig. 88



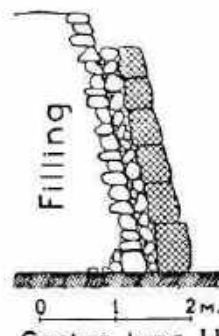
Casing type W G4940

Fig. 89



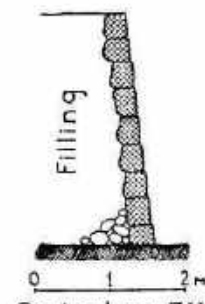
Casing type U
G1029

Fig. 90



Casing type U
G2330

Fig. 91



Casing type ZU
G2352

Fig. 92

but the facts now known do not permit a certain proof of this. I therefore take the casings x and y together, marking them when possible. I also note the type of chapel and the condition, whether finished or unfinished. The list is as follows:

xun. = unfinished x-casing; xfin. = finished x-casing.

yun. = unfinished y-casing; yfin. = finished y-casing.

Core	Casing	
(1) G 1201: II a + IV iii	yun., with interior chapel	Prince Wepemnofret
(2) G 1223: II a + IV iii	yun., with interior chapel	Prince Ka-m-aha
(3) G 1225: II a + IV iii	yun., with interior chapel	Princess Nefert-yabet
(4) G 2000: III ii	yun., with interior chapel	
(5) G 2110: II a	yfin., with exterior chapel	<i>rh-nswt</i> Nofer
(6) G 2130: II b	yfin., with interior chapel; recess broken in core	Prince Khent-ka (?)
(7) G 2120: II a	yun., with exterior c.b. chapel	monolithic stela; Prince Ses- hat-sekhentiuw
(8) G 2155: II a	casing mixed y and w	
(9) G 4000: II b + IV iii	xfin., with interior corr. chapel	Prince Hemyuwnuw
(10) G 4160: II b	yun., with exterior stone chapel	emplacement for slab-stela; name lost; reserve head
(11) G 4150: II b + IV iii	yun., with interior chapel	Prince Yuwnuw
(12) G 4260: II b	xun., exterior stone chapel	emplacement for slab-stela
(13) G 4140: III i	yun., exterior chapel	slab-stela, Princess Merytyetes
(14) G 4240: IV i	xfin., exterior stone chapel	Prince Sneferuw-seneb
(15) G 4340: IV i	xun., exterior stone chapel	reserve head
(16) G 4440: IV i	xun., exterior chapel	prince by reserve head
(17) G 4640: IV i	xun., exterior stone chapel	reserve head
(18) G 4750: IV i	xun., exterior stone chapel	Akhi
(19) G 5080: II a	xfin., interior chapel	Seshem-nofer
(20) G 5110: IV iii	xfin., interior chapel	Prince Duwanera
In the Eastern Field the cased mastabas are as follows:		
(21) G 7110 + 7120: IV ii + IV	xfin., 2 interior chapels	Prince Ka-wab and his wife
(22) G 7210 + 7220: IV ii + IV	xfin., 2 interior chapels	Prince Hordedef and his wife
(23) G 7310 + 7320: IV ii + IV	xfin., 2 interior chapels	Prince Ra-bauwf (?) and his wife
(24) G 7410 + 7420: IV ii + III ii	xfin., with 2 interior chapels	a prince and Meresankh II
(25) G 7130 + 7140: IV ii + IV iii	xfin., with 2 interior chapels	Prince Khufuw-khaf and his wife Nefert-kauw
(26) G 7230 + 7240: IV ii + IV iii	xun., interior chapel	
(27) G 7430 + 7440: IV ii + IV iii	xfin., interior chapel	Prince Min-khaf
(28) G 7510: IV iii	xfin., interior chapel	Prince Ankh-haf
(29) G 7650: IV iv	xfin., interior chapel	Merytyetes and Akhet-hetep
(30) G 7530 + 7540: IV iv, shifted	xfin., interior chapel	Hetep-heres II
(31) G 7050: V	xfin., interior chapel	Queen Nefert-kauw
(32) G 7350: IV iii	yfin., interior chapel	Hetep-heres II (?)

In cemetery south of Cheops pyramid:

Core	Casing	
(33) G I S 1: IV i	xfin., exterior c.b. chapel	
(34) G I S 2: IV ii	yfin., interior chapel	Ka-m-nofret
(35) G I S 3: IV ii	z- and x-casing, interior chapel	Prince Khufuw-dedef
(36) G I S 6: IV ii	xfin., interior chapel	
(37) G I S 8: IV ii	yfin., interior chapel	Sekhem-ka

The total number of cores cased in white stone (x or y) is 37. Of these 20 are in the Western Field, distributed as follows:

	Finished	Unfinished	Total
Western Field: 20 mastabas:			
Cem. G 1200	..	3	3
Cem. G 2100	3	1	4
Cem. G 4000	2	8	10
G 2000	..	1	1
Cem. en Échelon	1	..	1
G 5110	1	..	1
	7	13	20

In the three earlier nucleus cemeteries there are 62 mastaba-cores, excluding G 2000. Of these only 17 had a finished or unfinished casing of white stone, and 45 had been finished with other types or had been left uncased. The mastabas on which the white casing had been begun or finished form 27.4% of the whole 62. The finished white casings form only 8% of the 62.

In the Échelon Cemetery only one of the cores had been cased in white stone (G 5080) and that was a finished casing—4% of the 25 mastabas. The rest had been cased in c.b. or in grey stone or used uncased.

In the Eastern Field, of the 8 mastabas of the Cheops cemetery, 6 had a finished white casing of which 1 was of poorer quality, and 1 had an unfinished casing and 1 was uncased. The percentage of white casings finished and unfinished in this cemetery is 87.5%, and of finished white casings is 75%, a very much higher percentage than in the Western Field.

In the rest of the Eastern Cemetery, of the 6 cores of the reign of Chephren, 5 had a finished white casing, that is, 82.5%.

In the core-cemetery south of the First Pyramid, Nos. 1, 2, 3, 6, and 8 are cased in white stone of type x or y, while 5, 7, and 9 are uncased. The percentage of finished white casings is high, at least 50%.

Only one of the old cores was cased with the stepped grey stone in low courses of type z. This was G 2150, and that was made after the reign of Mycerinus. G I S 3 was originally cased with z-masonry, but this was later covered with fine white x-masonry.

The masonry of type w, of large slabs of grey nummulitic limestone roughly dressed to a sloping surface, first appears in the princely mastabas of the Eastern Field, the mastabas added to the older cemetery—G 7750, G 7760, G 7660, G 7550, G 7060, G 7070, G 7820, and G 7810. These are not core-mastabas but have been built as filled mastabas of type VI. In the Western Field the earliest mastaba of w-masonry on an independent site is that of 'Prince' Khnum-baf, presumed to be the son of Duwanera. But in the older cemetery this type appears in the tomb of Prince Mer-ib, built against the old core-mastaba G 2100. Other examples appear in Cem. G 4000 and in the Cem. en Échelon, used as casing to the old cores—G 4710, G 4410, G 4920, G 4940, G 4970, G 5150, and G 5170. The date of the smooth white casing x or y appears to cover the whole period of Dyns. IV and V as exemplified by the

pyramids. But it carried with it a chapel of the same material and was an expensive form of masonry beyond the means even of some princes and princesses of Dyn. IV. It may, however, be within the means of a favourite of the king or an unusually wealthy noble of Dyn. V. A certain doubt must therefore arise as to the placing of manifestly later examples in Dyn. IV or in Dyn. V.

c. Summary Table: Distribution of Fine White Casing through the Six Nucleus Cemeteries

Considering the fine white casing from the point of view of the chronological order of the cores of the Western Field, the following summary table may be set forth:

(a) The fifteen initial cores:

	Finished	Unfinished	Total casings	Total mastabas
Cem. G 1200 . . . . .	..	3	3	5
Cem. G 2100	2	1	3	5
Cem. G 4000	1	3	4	5
	3	7	10	15
	20.0%	46.66%	66.66%	100%

(b) The twenty-three succeeding mastabas and G 2000:

Cem. G 1200 . . . . .	..	..	..	5
Cem. G 2100 . . . . .	..	..	..	1
Cem. G 4000	1	5	6	17
G 2000 . . . . .	..	1	1	1
	1	6	7	24
	4.16%	25.00%	29.16%	100%

(c) The eight twin-mastabas in G 7000, of which five were finished in Cheops' reign:

Northern row, 4 twin-mastabas . .	4	..	4	4
Southern row, 4 twin-mastabas . .	2	1	3	4
	6	1	7	8
	75%	12.5%	87.5%	100%

(d) Cemetery G 7000, mastabas assigned to the reign of Chephren (1 assigned to Shepses-kaf):

Mastaba succeeding nucleus cemetery	4	..	4	5
Mastaba assigned to Shepses-kaf . .	1	..	1	1
	5	..	5	6
	83.3%	..	83.3%	100%

All these six mastabas were the tombs of members of the royal family.

(e) The mastabas in Cem. G I S:

Cem. G I S	5	..	5	9
	55.5%	..	55.5%	100%

(f) Mastabas in the Western Field unused at the death of Cheops, or built thereafter:

Cem. G 2100	1	..	1	4
Cem. G 4000 . . . . .	..	..	..	20
Cem. en Échelon	1	..	1	25
Outliers	1	..	1	1
	3	..	3	50
	6.0%	..	6.0%	100%

In the reign of Cheops only white casings were used, but at the king's death a large number of cores were left uncased or with a casing unfinished. The persons concerned were all of the family or of the court of the king. Some time after the death of Cheops, certainly not before the reign of Chephren, the nummulitic mastaba of type VI was introduced, and some of the old cores were altered by w-casing to this form. Thereafter the use of white casing marks the owner as a person of unusual means.

3. CHAPELS OF THE CORES AND FINISHED MASTABAS

It has been shown in *Tomb Development* (pp. 239 ff.) that all the chapels of Dyn. I were open-air spaces enclosed by a low wall. This open-air type was succeeded by a variety of roofed exterior chapels in large mastabas, although open-air chapels continued to be used down to the end of the Old Kingdom (see chapel type 9). The roofed exterior chapel was first used for the two-niched mastabas (sometimes with intervening panelling). The interior chapel was first introduced in the reign of Khasekhemuwy (last king of Dyn. II), or perhaps just before that reign. It amounted to a withdrawal within the mastaba of the southern or chief offering-niche of the two-niched mastabas. Thereafter the west wall of the interior offering-room always represented a section of the façade of the mastaba or later a miniature of the whole façade. Down to the beginning of the stone mastabas the interior chapels were 'cruciform chapels' of several different types (see *Tomb Development*, pp. 263 ff.). It was in the two-niched mastabas that inscribed stones ('primitive niche stones') were first introduced, and it was in the cruciform chapel that reliefs were first used on the walls of the offering-room.

When the mastaba-cores of stone were built at Giza in the reign of Cheops, the chapels did not continue directly the forms developed at Saqqarah and Medum during the reign of Sneferuw. The introduction of stone masonry may have been the reason for the omission of niches in the core-work. But before the end of the reign of Cheops the old two-niched mastaba had again become the prevailing form. All the early finished mastabas had exterior chapels, either of c.b. or of stone, and it was not until the end of the reign of Cheops that the interior chapel again appeared. All the stone chapels of Dyn. IV, whether exterior or interior, present a form distinctly different from the old cruciform chapels. This form I have named the 'L-shaped chapel'. It was, however, like the cruciform chapels in having only one offering-niche. In the cruciform chapel the offering-niche was in the middle of the west wall, and the entrance, with few exceptions, was in the east wall directly opposite the offering-niche. In the L-shaped chapel the niche was at one end of the west wall and the entrance doorway at the other end of the east wall, on the western bank of the Nile. For the eastern bank the positions were reversed. The L-shaped chapel appears definitely in the chapels of the Zoser complex at the Step Pyramid of Saqqarah in the beginning of Dyn. III. While the direct connexion of this form with the early Giza chapels cannot be definitely traced, it is reasonable to suppose that the Giza chapels were derived from the Zoser chapels or from a common basis of which we are ignorant.

The chapel of a mastaba consists of the offering-room and such subsidiary chambers (open court, magazines, statue-chambers) as suited the means or the desires of the owner. At Giza the most important fact is the position and form of the offering-room itself. This is sometimes outside the core or body of the mastaba and sometimes inside. When the offering-chamber is inside the body of the mastaba (interior chapel) the subsidiary rooms, if any, are outside, built of material the same as or different from that of the offering-room inside. The use of the terms exterior and interior chapel refers only to the offering-room itself in Dyn. IV.

The exterior chapel against the face of the mastaba or bonded with its casing may have in its west wall one or more niches according to the relation of the whole chamber to the mastaba façade. The exterior

chapel may be built around a single niche of the two-niched mastaba or it may cover the whole façade of the mastaba with its various styles of niching. Thus when the exterior chapel is much shorter than the mastaba itself it covers only one niche and is a one-niched chapel. When the chapel is about the same length as the mastaba, it will have the same number of niches as the mastaba itself, two in a two-niched mastaba and more than two in a multiple-niched mastaba. The interior chapel has its niches constructed in its west wall as part of the chapel *ab origine*. The interior chapel amounts, as said above, to a withdrawal of the chief niche within the mastaba. At Giza the L-shaped interior chapel presents forms with one and with two niches. The one-niched chapel represents obviously the withdrawal of the chief niche or a section of the façade of the mastaba within the body of the mastaba. The two-niched chapel reproduces in its west wall the whole façade of the two-niched mastaba in miniature or symbolically. In Dyn. V another interior chapel (the 'corridor chapel') came into use in which the west wall presented the façade of the mastaba in extended form like one group of the exterior chapels.

The mastaba chapels at Giza begin in the reign of Cheops and range in date to the end of Dyn. VI. During this time chapels were being constructed at Saqqarah parallel in time for the whole period. These two parallel chronological series of chapels ran independently, although they touch at certain points, and were obviously constructed by two different schools of builders. The two series are similar in presenting both exterior and interior chapels. But the exterior chapels of Giza in the beginning were entirely of the old one-niche type of Dyn. III. In both places the interior chapels of Dyn. IV were situated in the SE corner of the mastaba with a direct doorway in the east wall of the chapel and a subsidiary north niche in the façade. All these chapels of Dyn. IV consisted of one N-S offering-room, but at Saqqarah the majority were cruciform chapels, while at Giza they had asymmetrical entrances (the L-shaped chapel). Here I give the Giza types alone with references to similar examples at Saqqarah.

a. Classification of Giza Chapels of Dyns. IV-VI

For convenient reference I give here a complete list of the type designations used in the discussion of the chapels of Dyns. IV-VI at Giza:

Exterior chapels:

Type (1): exterior c.b. chapel built against the face of the mastaba or mastaba-core, in the place of the chief niche or subsidiary to stone chapel.

Type (1 a): exterior c.b. chapel built around a slab-stela or the place of the slab-stela: a multiple-room chapel; see Fig. 93.

Type (1 b): subsidiary to stone chapel of type (2 a) and built around a slab-stela; see Fig. 94.

Type (1 c): exterior c.b. chapel built around a deep recessed niche; see Figs. 95, 96.

Type (1 d): exterior to stone chapel of type (2 b).

Type (1 e): exterior to stone chapel of type (3).

Type (1 f): exterior to stone chapel of type (4).

For a derivative of this chapel see type (8 f-g).

Type (2): exterior stone chapel, L-shaped.

Type (2 a): N-S room apparently without *ka*-door built against the east face of the mastaba beside the slab-stela which was left exposed in the exterior subsidiary c.b. chapel of type (1 b); see Fig. 94.

Type (2 b): N-S room, with one niche: built around the chief niche in a cased mastaba; see Fig. 97. See also exterior chapels of type (8).

Interior chapels:

- Type (3): interior stone L-shaped chapel with one niche in west wall in place of south niche: with or without rooms.
- Type (3 a): with deep compound niche at one end of west wall; see Figs. 98, 99.
- Type (3 b): with single shallow niche in middle of panelled west wall; see Fig. 100.
- Type (3 c): with traditional niche or stela in middle of west wall.
- Type (4): N-S offering-room with two niches in west wall in SE corner of mastaba: asymmetrical entrance from east; see Fig. 101.
- Type (4 a): with subsidiary north niche.
- Type (4 b): without subsidiary north niche.
- Type (5): long N-S offering-room (interior corridor chapel), extending more than half the length of the mastaba; entered from east at one end of east wall or from north or south end of chapel; one or more niches in west wall as mastaba façade.
- Type (5 a): plain corridor with one or more niches in west wall.
- Type (5 b): one or more niches in west wall and subsidiary small interior one-niched chapel at north end of this wall.
- Type (5 c): with deep recess or alcove entering mastaba at south end of west wall with or without other niches; chief niche in alcove.
- Type (5 d): with alcove entering mastaba at north end of west wall; with or without niches in alcove: one or more niches in rest of west wall.
- Type (5 e): with east alcove at south end of east wall.
- Type (6): exterior or interior symmetrical chapel (cruciform) with one or two niches in west wall.
- Type (6 a): exterior pyramid chapel of stone or c.b., each built on a separate plan.
- Type (6 b): interior mastaba chapel of form based on RC ii c.
- Type (6 c): exterior mastaba chapel with symmetrical design.
- Type (7): single E-W offering-room, or a multiple-room chapel based on an E-W offering-room: the chief niche is a 'false door' stela in the west end of the offering-room: rarely two plain niches in west wall.
- Type (7 a): single E-W offering-room: at Saqqarah type (7 a) is represented in a few chapels in the SE corner of the mastaba with entrance from the east.
- Type (7 b): two-room chapel with E-W offering-room (with stela) in west end and N-S offering-room (with or without niches in west wall) placed north or south of the east end of the E-W room; the entrance is in the N-S room, from the east or north or south; common at Giza and rare at Saqqarah.
- Type (7 c): interior chapel with three or more rooms based on a nucleus of type (7 b).
- Type (7 d): interior multiple-room chapel with one E-W offering-room and one or more other rooms variously placed: each chapel was built on a separate design.
- Type (7 e): complex interior chapel based on a symmetrical (cruciform) nucleus consisting of an E-W offering-room opening in the middle of the west wall of the N-S hall.
- Type (8): roofed exterior chapel built against the façade of a mastaba with the niche-work of the mastaba appearing in the west wall of the corridor.
- Type (8 a): against ordinary two-niched mastaba.
- Type (8 b): against mastaba with two or more pairs of niches.

- Type (8 c): against mastabas with abnormal niche-work (one, three, or more niches) or with niches irregularly placed: abnormality often due to bad preservation of mastaba façade.
- Type (8 d): against mastaba without niches or with no niches preserved.
- Any of these types may have an east alcove at south end of east wall, the presence of which is indicated by an x attached to the type designation.
- Type (8 e): exterior chapels of anomalous forms: covering the façade of the mastaba.
- Type (8 f): exterior multiple-room chapel, around chief niche of two-niched mastaba: of type (1 a-c).
- Type (8 g): exterior one-room chapel around chief niche: of type (1 d).
- Type (9): open-air corridor chapel: enclosing wall or partial wall rarely used.
- Type (9 a): with a mastaba with two niches in the east façade.
- Type (9 b): with a mastaba with two or more pairs of niches in the façade.
- Type (9 c): with a mastaba with abnormal niche-work (see 8 c).
- Type (9 d): with a mastaba without niches or with no niches preserved.
- Type (10): interior square or nearly square offering-room with one or two niches in west wall.
- Type (10 a): small room with one niche in west wall, like the small north chapel in type (5 b).
- Type (10 b): large chamber with one or two pillars supporting roof; with one or two niches in west wall.
- Type (10 c): room like (10 b) approached by a corridor; cf. type (5 c).
- Type (11): the portico chapel: a wide recess in the façade of the mastaba (over half the length): with roof supported by pillars.
- Type (11 a): with court, usually of c.b., in front of mastaba and portico chapel.
- Type (11 b): with covered connecting corridor passing the front of the mastaba and portico chapel.
- Type (11 c): with no evidence of court or other features.
- Type (12): complex interior chapels, or partly interior and partly exterior, which cannot be classed under the above types; each built on its own design.
- Type (13): abnormal chapels, usually a roofed niche in the place of the chief niche.

b. Chapels of Dyn. IV: Types (1)-(4 a), Rock-cut Chapels and Chapels of Type (6)

The chapels assigned to Dyn. IV are as follows:

- (a) The chapels of the 15 initial cores of the 3 nucleus cemeteries of the Western Field: Cems. G 4000, G 2100, and G 1200.
- (b) The 37 mastabas finished in the same 3 nucleus cemeteries after the 15 initial mastabas.
- (c) The 8 twin-mastabas of the nucleus cemetery G 7000 in the Eastern Field.
- (d) The massive core-mastabas of the Eastern Field built after the twin-mastabas, 6 in number.
- (e) The 8 nummulitic mastabas of type VI a built around the last-named mastabas: and 3 other mastabas in this field: total 11.
- (f) A number of mastabas of the Western Field which are built around or attached to nucleus mastabas or for other reasons are to be dated to Dyn. IV.
- (g) The 10 mastabas of Cem. G 15 (excavated by Junker).
- (h) A certain number of rock-cut tombs in the Cheops-Chephren and Mycerinus quarries, recorded by Lepsius or excavated by Professor Selim Bey Hassan or by our expedition.

The chapels of these tombs yield mastaba chapels of types (1)-(4 a), rock-cut tombs of type RC i, and mastaba chapel type (6).

(1) *The Exterior Crude-brick Chapel of Type (1)*(a) *Chapels of type (1 a).*

The exterior c.b. chapel at Giza was the common type used with mastaba-cores of core types II a, II b, and IV i. These cores have no offering-niche or recess in the valley face. The c.b. chapel is built against that face at the southern end where the chief niche is usually placed. It has an open recess in the west wall of the inner offering-room in which the stepped face of the core appears, and in this recess was seen the slab-stela which had been previously set in an emplacement cut in the retaining wall of the core. These exterior chapels of c.b. consist of an L-shaped offering-room, a magazine, and often an anteroom and open court (see temples of pyramids G III-a, b, and c in *Mycerinus*, Chapter IV). The separate rooms were roofed with semi-cylindrical leaning-course vaults in every case in which the

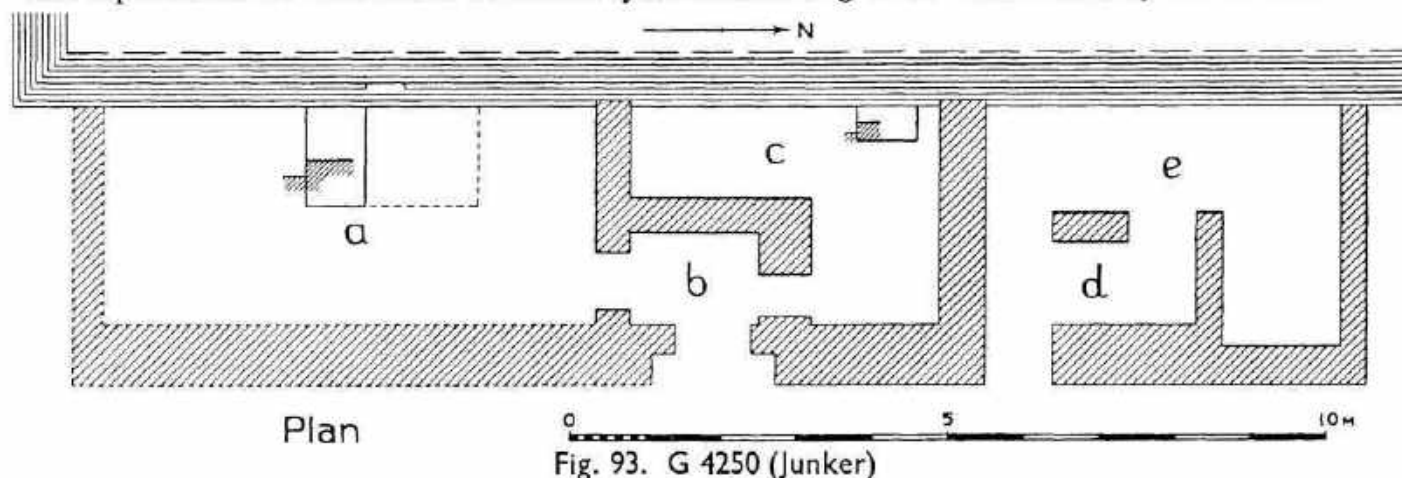


Fig. 93. G 4250 (Junker)

walls were sufficiently preserved to show the type of roofing (G 1203, G 1225). In one case (G 1203), in which the vaults were unexpectedly well preserved, the north wall of the offering-room had four windows, vertical rectangular slits half a brick wide separated by half-brick partitions and about five to seven courses high. A similar window was found in G 1406, of later date. The entrance doorway, closed by the usual wooden door swung on door-posts, was placed in the outer wall wherever convenient, east, north, or south. The other doorways are also closed by wooden doors, usually one-leaf doors.

Many of the c.b. chapels of type (1 a) had been repaired or altered before the service was discontinued, and a few appear to have been completely rebuilt on a simpler ground-plan.

Examples of chapels of type (1 a) built against a core of a nucleus cemetery:

(1) G 4250 (Junker): core type II b; emplacement for slab-stela.

Chapel: five rooms: from S to N, N-S offering-room, magazine with vestibule room; increased later by a similar magazine and vestibule on N.

(a) 6.5×3.0 m.; 19.5 sq. m.; prop. 1/2.17.

Total floor area: 42.52 sq. m.

See Fig. 93.

(2) G 1203: core type II a; slab-stela and reserve head; *imy-r3 wptwt*, Kanofer.

Chapel: three rooms and court: N-S offering-room, magazine, and vestibule roofed with leaning-course c.b. vault: vertical slot windows in offering-room.

(a) 5.9×1.7 m.; 10.03 sq. m.; prop. 1/3.47.

Total area, a-c: 17.36 sq. m.

Area, a-c and d (court): 26.15 sq. m.

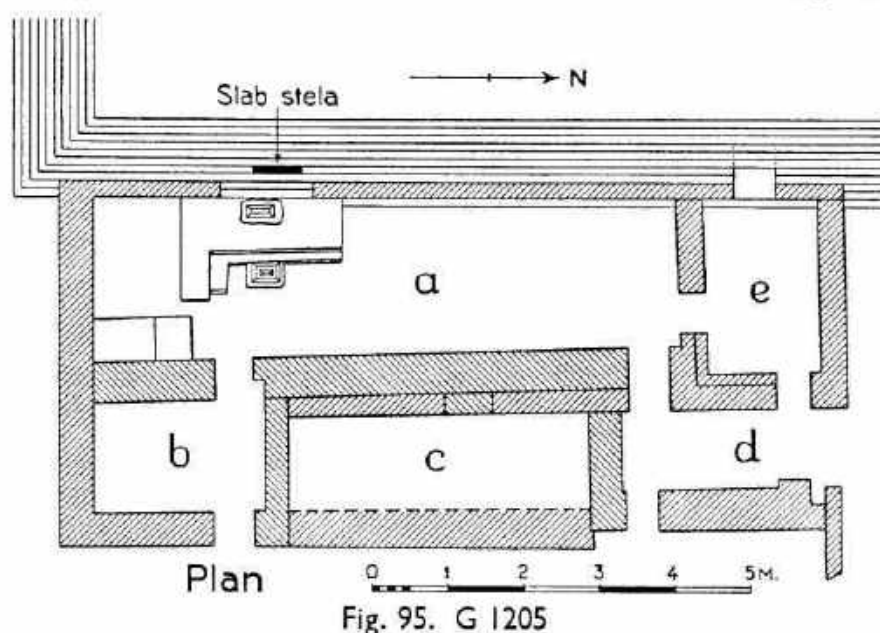
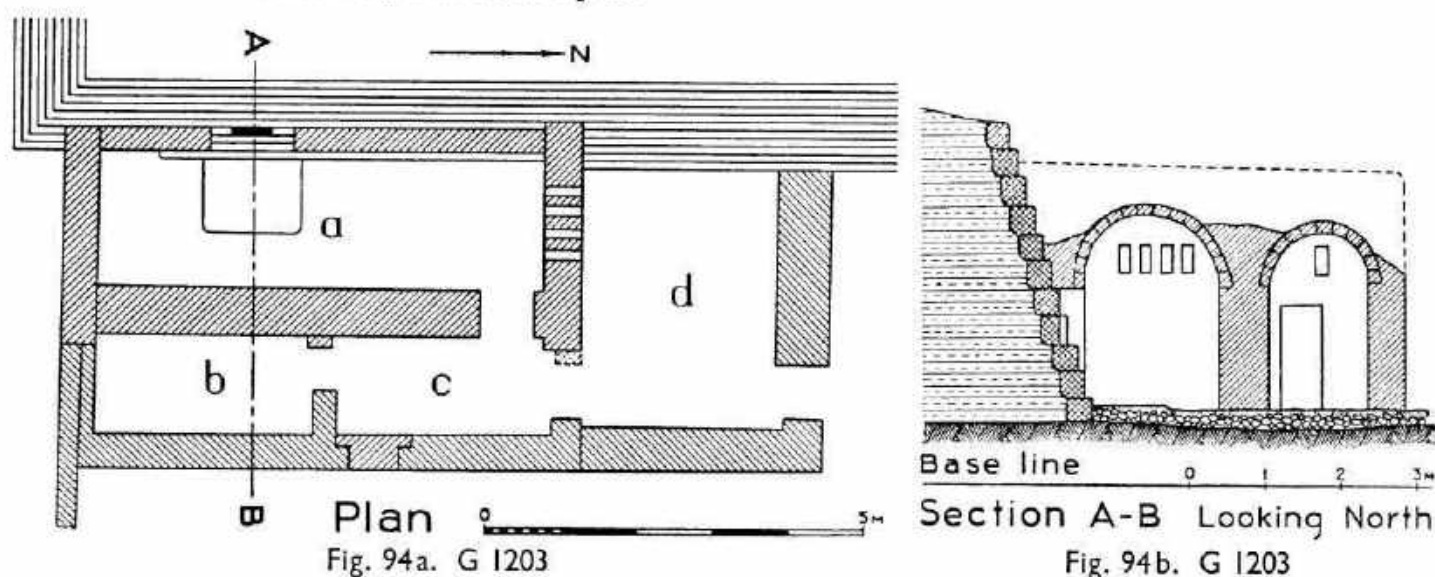
See Fig. 94.

(3) G 1205: core type II a; emplacement of slab-stela.

Chapel: five rooms, two on west and three on east: N-S offering-room with magazine on north; on east, vestibule giving entrance to offering-room, magazine, and to rooms south of it.

(a) 7.7×2.05 m.; 15.78 sq. m.; prop. 1/3.76.

Total area, a-e: 28.88 sq. m.



Open court probably on north covered by a later mastaba, 1204.

See Fig. 95.

(4) G 2100: core type II a; emplacement of slab-stela.

Chapel: remains only of c.b. chapel; intrusive later burial-shafts.

(5) G 4360: core type IV i; slab-stela.

Chapel: four rooms (five?): N-S offering-room (a); magazine (b) on south; magazine (c) on north; on east vestibule corridor entered from north.

(a) 3.4×2.1 m.; 7.14 sq. m.; prop. 1/1.62.

Total area: 22.29 sq. m.

See Fig. 96.

(6) G 4460: core type IV i; slab-stela.

Chapel: four rooms: N-S offering-room with magazine (b) on south; magazine (d) on east and vestibule (c) north of (d).

(a) 6.3×2.1 m.; 13.23 sq. m.; prop. 1/3.0.

Total area, a-d: 32.19 sq. m.

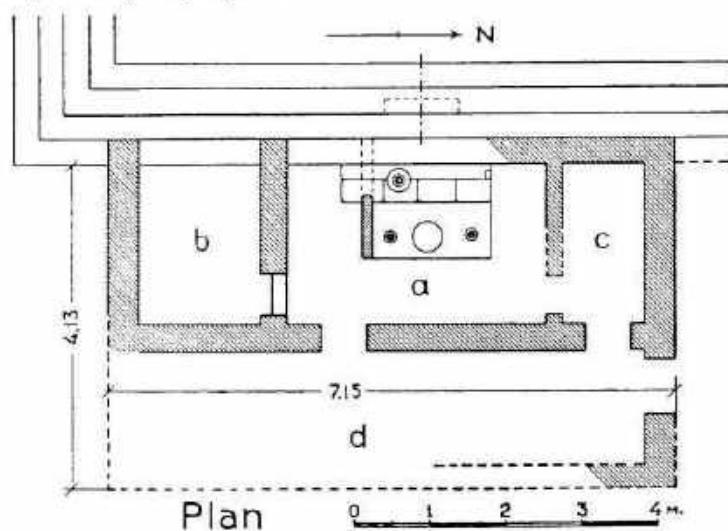


Fig. 96. G 4360 (Junker)

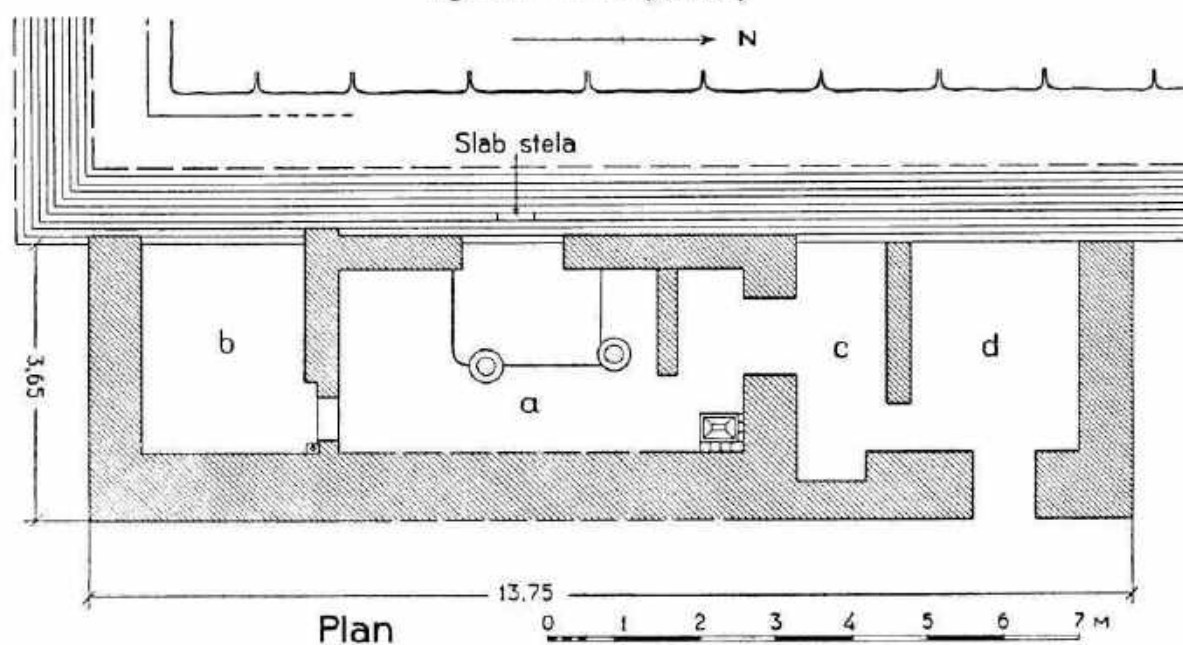


Fig. 97. G 4350 (Junker)

(7) G 4560: core type IV i; slab-stela.

Chapel: traces of three rooms nearly destroyed; street north of chapel, closed by mastaba of Ka-m-anekh.

(8) G 4350: core type III i; slab-stela.

Chapel: four rooms in N-S line: N-S offering-room (a); magazine (b), south of (a); E-W room (c), with statue niche in east wall, north of (a); on north, a vestibule room, entered from east.

(a) 5.3×2.25 m.; 11.93 sq. m.; prop. 1/2.35.

Total area, a-d: 27.61 sq. m.

See Fig. 97.

- (9) G 4450: core type IV i; slab-stela emplacement.

Chapel: three rooms: N-S offering-room on west; on east, magazine on north and small vestibule on south, entered from north.

(a) 4.7×1.7 m., area, 7.99 sq. m.; prop. 1/2.75.

Total area: 14.06 sq. m.

See Fig. 98.

- (10) G 2135: core type II a; slab-stela.

Chapel: probably five rooms; two rooms on west, N-S offering-room and magazine on south; three on west, vestibule, connecting room, and magazine; entered from north.

(a) 5.4×2.5 m.; area, 13.5 sq. m.; prop. 1/2.16.

Total area: c. 33.0 sq. m.

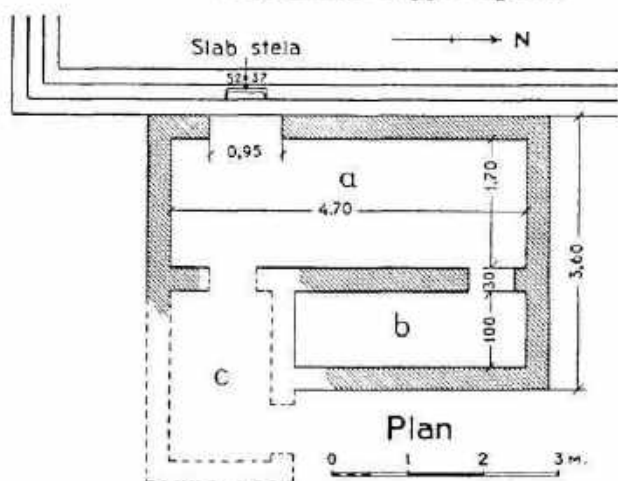


Fig. 98. G 4450 (Junker)

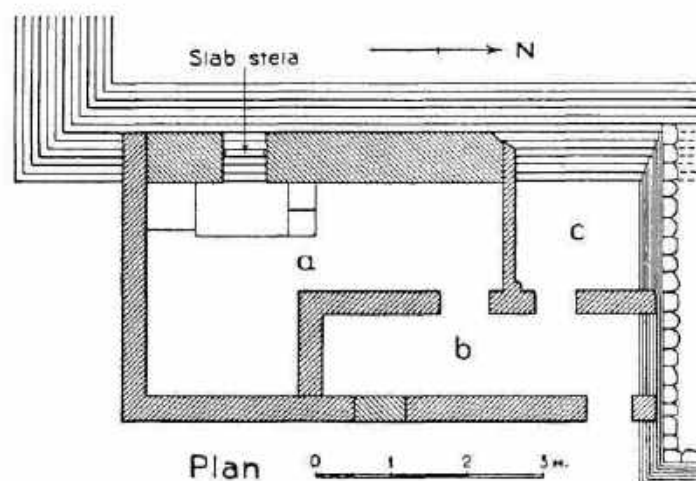


Fig. 99. G 1207

- (11) G 1207: core type II a; slab-stela; *rht nswt*, Nofret.

Chapel: rebuilt chapel of three rooms: N-S offering-room with vestibule room in NE corner, and a magazine north of offering-room; street occupied by G 1206.

(a) originally 4.67×2.8 m.; 13.07 sq. m.; 1/1.66: now a long room with alcove on east with

(1) 4.67×1.45 m. and (2) 2.0×1.35 m.; area, 9.47 sq. m.

Total area, a-c: 16.22 sq. m.

See Fig. 99.

- (12) G 1209: core type II a; no slab-stela.

Chapel: rebuilt two-room: old chapel partly destroyed by G 1208; N-S room with vestibule in NE corner.

(a) orig. 3.9×2.7 m.; area, 10.53 sq. m.; prop. 1/1.44; as reconstructed, a N-S room with west alcove on south: net floor area, 8.42 sq. m.

(b) vestibule, 1.55×0.75 m.; 1.16 sq. m.; entered from east.

Total area, a-b: 9.58 sq. m.

Originally other rooms, now obstructed by G 1208.

See Fig. 100.

- (13) G 1235: core type II a; slab-stela; *rht nswt*, Yeni.

Chapel: four rooms, a on west and b, c, d on east; alterations and destruction by G 1674. N-S offering-room on west; on east, vestibule on north and two connecting rooms: originally

three rooms, N-S offering-room with west alcove on south around rooms b and c; alcove later converted into room d:

(a) 5.4×1.75 m.; area, 9.45 sq. m.; prop. $1/3.09$.

Total floor area, a-d: 14.09.

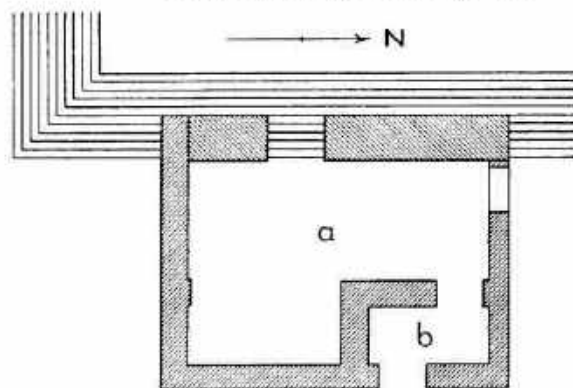
See Fig. 101.

(14) G 1227: core type II a; slab-stela; *rht nswt* Sethy-hekenet.

Chapel: nearly destroyed by intrusions; remains of three rooms: on west, N-S offering-room entered from east on south; on east, on south, vestibule-room, and on north, N-S room.

(a) 4.8×1.68 m.; area, 8.06 sq. m.; prop. $1/2.86$.

Total area, not measurable.



Plan
Fig. 100. G 1209

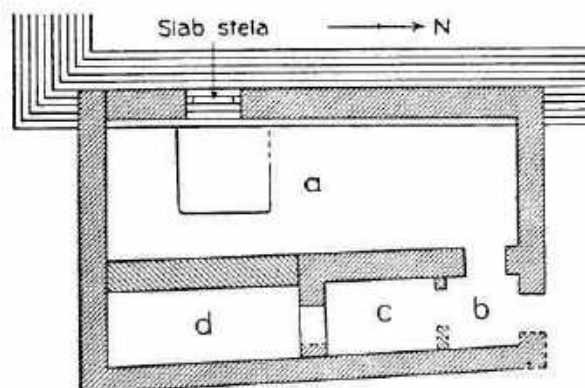


Fig. 101. G 1235

For other c.b. exterior chapels based on slab-stelae see type (1 b), secondary to stone chapels of type (2 a). All but one of these fourteen chapels were built around a slab-stela. The one exception, G 1209, had a vertical strip of the core-face exposed in the niche, but no slab-stela.

No two of these chapels are exactly alike, but they fall roughly into three groups:

(a) Without magazine (or statue-chamber) south of offering-room:

G 4250, G 1203, G 1205, G 2100 (?), G 4450, G 1227—6 examples.

(b) With magazine or statue-chamber south of offering-room:

G 4360, G 4460, G 4560, G 4350, G 2135—5 examples.

(c) With vestibule-room built in NE corner of offering-room: altered or rebuilt chapels:

G 1207, G 1209, G 1235—3 examples.

The general use of a vestibule room connecting the outer entrance (usually on north) with the doorways to the other rooms is a characteristic feature.

(b) *Exterior c.b. chapels of type (1 b), based on slab-stela but secondary to stone chapel of type (2 a).*

Closely related to chapel type (1 a) in time is the peculiar c.b. chapel which in G 4160 and G 4260 was built around a slab-stela but adjoining a small stone room which was built against the core at the south end of the east façade. Both the stone chapels were badly preserved and showed no trace of a niche in the west wall. The chapel of G 4260 appears to have been decorated, and it is possible that the stone chapel was intended to contain reliefs subsidiary to the slab-stela.

(15) G 4160: core type II b; cased with y-masonry; slab-stela; reserve head.

Chapel: one stone room (a), and five c.b. rooms (b-f):

(b-c) offering-room with E-W arm (slab-stela in west end) and N-S arm extending

northwards; on west, from north, small magazine (d), N-S connecting-room (e), and vestibule (f) with doors to a and e.

Area, b-f: 19.02 sq. m.

Total area, a-f: 21.45 sq. m.

See Fig. 102.

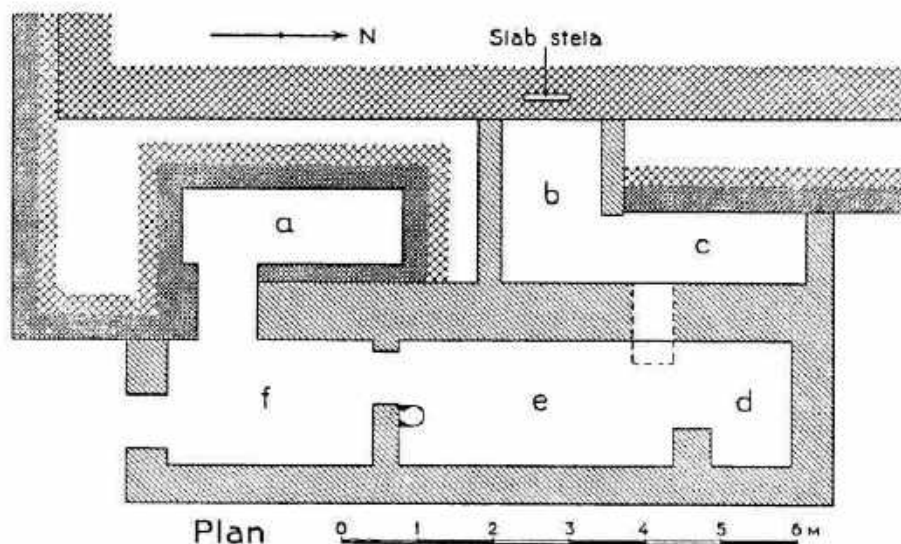


Fig. 102. G 4160 (Junker)

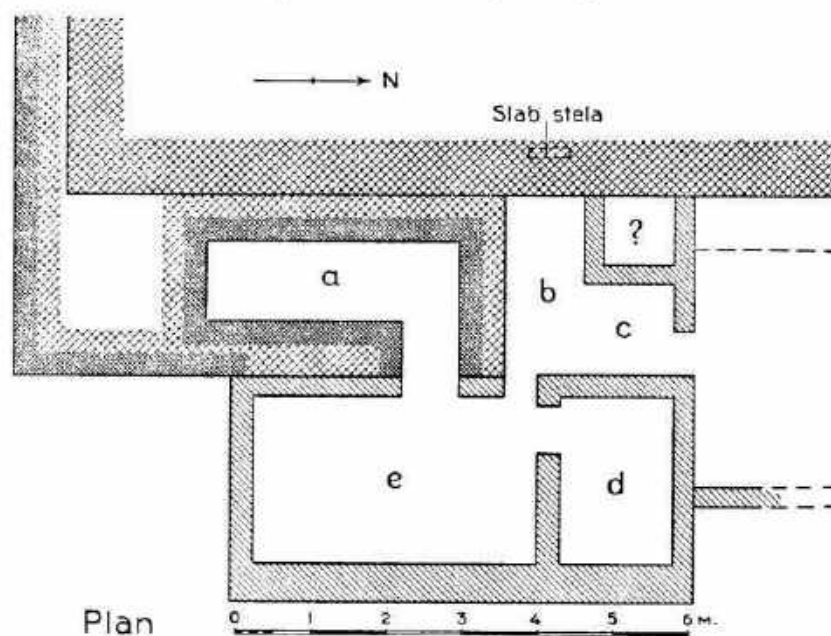


Fig. 103. G 4260 (Junker)

(16) G 4260: core type II b; cased with y-masonry; slab-stela.

Chapel: one stone room (a) and four c.b. rooms (b-e):

(b-e) offering-room with E-W arm on south (slab-stela in west end), and N-S arm extending northwards with entrance from north; on east, from north, small magazine (d), and hall (e) with doors to a, b, and c.

Area, b-e: 15.45 sq. m.

Total area, a-e: 18.97 sq. m.

See Fig. 103.

(c) *Miscellaneous exterior c.b. chapels related to type (1 a), attached to core-mastabas of the nucleus cemeteries: type (1 c).*

A number of core-mastabas, particularly of type IV i, have no slab-stela, but have, usually attached to the south end of the façade, exterior c.b. chapels of type (1). These chapels marked (1 c) are by the position of their mastabas and other circumstances later than the chapels of type (1 a), groups a and b, and those of type (1 b). All are multiple-room chapels roofed with c.b. vaults or wood. The variations include:

(1) C.b. chapels constructed to complete unfinished stone chapels of type (3).

(2) Chapels with the face of the core showing in the west wall of the offering-room: perhaps an accident of preservation.

(3) Chapels built around a monolithic stela set in the core.

(4) Chapels with offering-niche in the west wall.

(5) Chapels with two parallel rooms.

The examples are as follows:

(17) G 1201: core type II a; with cased addition of type IV iii (unfinished); slab-stela in place behind added masonry; Prince Wepemnofret.

Chapel: unfinished type (3 a) completed as c.b. chapel; offering-room, open court containing magazine and vestibule.

(a) 4.9×1.85 m.; area, 9.06 sq. m.; prop. 1/2.65.

Total area, a-d: 43.11 sq. m.

See Fig. 104.

(18) G 1225: core type II a; with addition cased, of type IV iii; slab-stela behind added masonry; Princess Nefert-Yabet.

Chapel: unfinished type (3 a) completed with c.b. walls of type (1 a); badly preserved; two rooms, N-S offering-room and vestibule-corridor entered from south probably with exit to subsidiary north chapel.

(a) 5.92×2.1 m.; area, 12.43 sq. m.; prop. 1/2.82.

Total area, not measurable.

(19) G 4540: core type IV i; reserve head.

Chapel: probably four rooms, altered and damaged; built against bare façade of core; on west, offering-room and on south, magazine; on east, vestibule (on north), and another room badly destroyed.

(a) 5.75×2.6 m.; area, 14.95 sq. m.; prop. 1/2.21.

Total area, a-d: 27.45 sq. m.

(20) G 4550: core type IV i; no slab-stela; face of mastaba exposed.

Chapel: five rooms: on west, three, N-S offering-room, magazine on south, and room on north; on east, two rooms, vestibule on north (entered from north), and magazine on south.

(a) 2.75×2.45 m.; area, 6.74 sq. m.; prop. 1/1.12.

Total area: 22.73 sq. m.

Probably altered from a four-room chapel.

(21) G 4660: core type IV i; slab-stela (?).

Chapel: five rooms, a and b on west, c-e on east: on west, offering-room with small chamber on south; on east, vestibule on north, with two other rooms south of it.

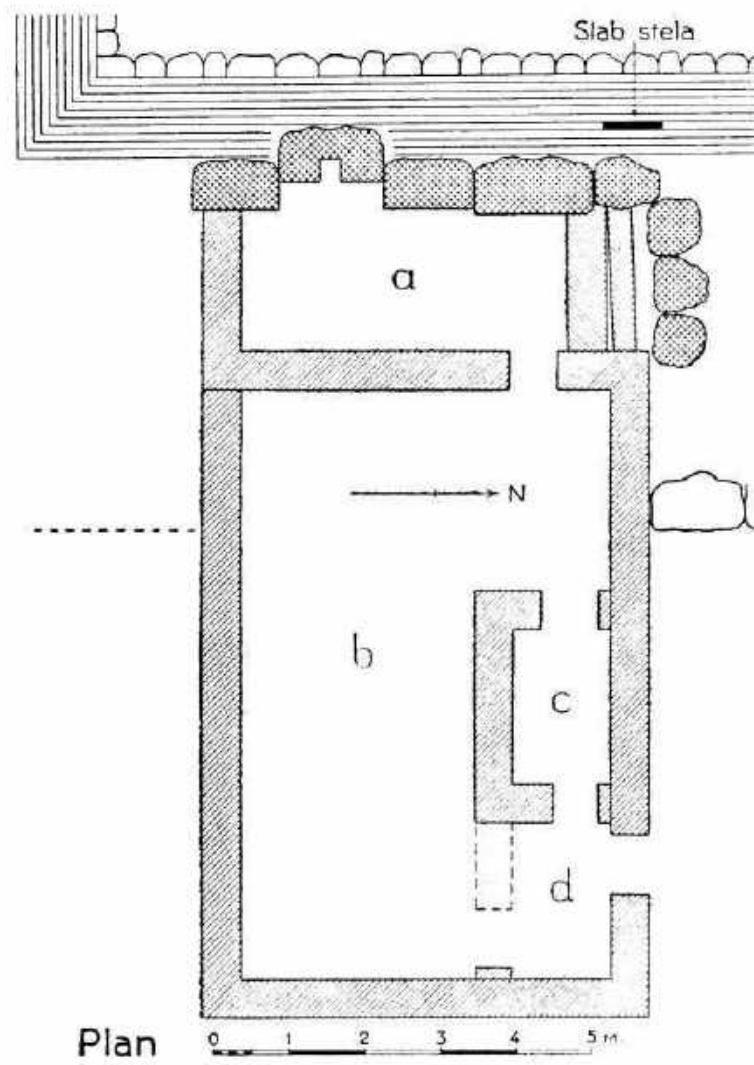


Fig. 104. G 1201

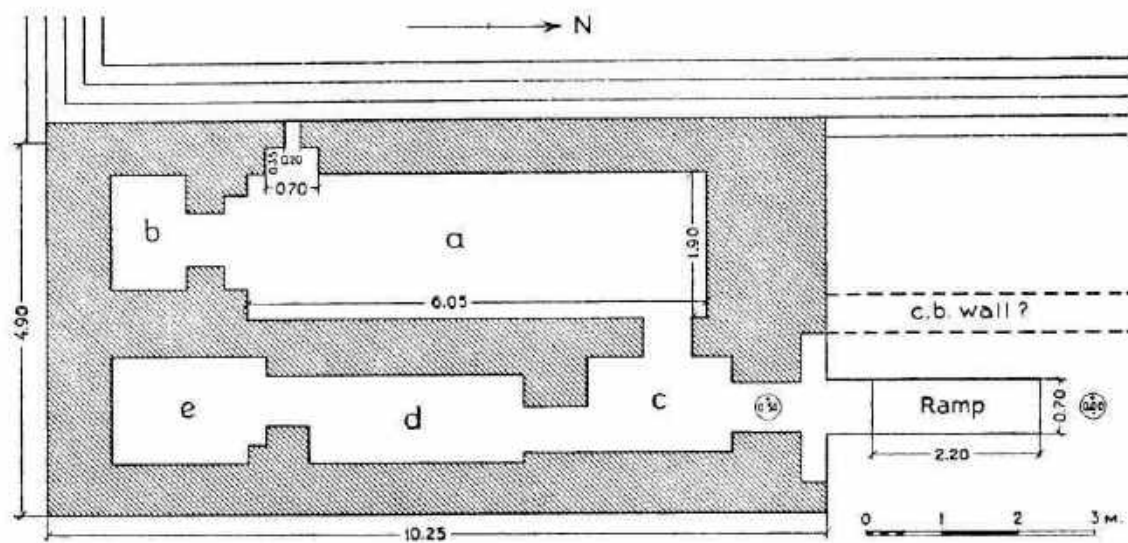


Fig. 105. G 4660 (Junker)

- (a) with compound c.b. niche in south end of west wall: 6.05×1.9 m.; area, 11.5 sq. m.; prop. $1/3.18$.

Total floor area, a-e: 23.5 sq. m.

See Fig. 105.

- (22) G 4430: core type IV i; no casing; monolithic stela inset in core, in east face near south end.

Chapel: built around inserted stela; three c.b. rooms: N-S offering-room on west, vestibule and magazine on east:

- (a) 4.42×1.8 m.; area, 7.96 sq. m.; prop. $1/2.46$.

Total area, a-c: 12.13 sq. m.

See Fig. 106.

- (23) G 4650: core type IV i; no slab-stela but stone niche; Princess Yabtyt.

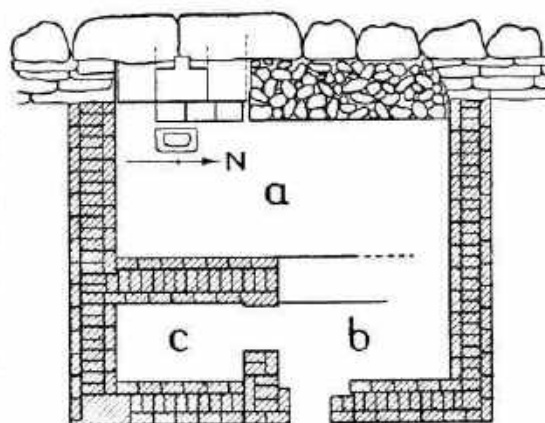
Chapel: five rooms: on west, N-S room with façade of mastaba exposed in west side (a); and south of it an E-W offering-room with stone-cased niche; on east, vestibule on north and two other rooms.

- (a) 4.75×2.5 m.; area, 11.88 sq. m.; prop. $1/1.88$.

- (b) 1.35×2.9 m.; area, 3.82 sq. m.; prop. $1/0.46$.

Total area, a-e: 27.45 sq. m.

Date: Dyn. V.



Plan 0 1 2 3 m.

Fig. 106. G 4430

- (24) G 4330: core type IV i, uncased.

Chapel: towards middle of mastaba: two parallel rooms:

- (a) N-S offering-room with recess in c.b. at south end of west wall: 3.65×1.4 m.; area, 5.05 sq. m.; prop. $1/2.6$: entered from b at north end of east wall.

- (b) N-S room, vestibule corridor built later; entered from north: 3.65×2.05 m.; area, 7.48 sq. m.

Total floor area, a-b: 12.53 sq. m.

- (25) G 4630: core type IV i, uncased.

Chapel: at south end of east façade with an intrusive mastaba, 4631, filling street north of chapel: two rooms and court south of them:

- (a) N-S offering-room with two stone stelae set in west wall: 3.9×1.3 m.; area, 5.07 sq. m.; prop. $1/3.0$: entered from east, from b, in north end of east wall.

- (b) square vestibule with one column in middle, entered from south from court (c); door to a in west wall; door to later corridor on north.

- (c) open court south of chapel, entered from east, at south end of east wall: embrasure of b in middle of north wall.

Total area, a-c: 30.82 sq. m.

See Fig. 107.

All these twenty-five chapels are actually or theoretically attached to the chief offering-niche of the mastaba, in contrast to the exterior corridor chapel which covers the whole façade of the mastaba. They are obviously related to the exterior multiple-room chapels of Dyn. III. The above list gives all the chapels attached to the façade of mastabas of the nucleus cemeteries, which seem to be based on the

earlier chapels of type (1 a). The series is continued by a small number of multiple-room chapels attached to later mastabas and these are entered as type (8 f-g). The series of exterior c.b. chapels attached to the chief niche or in place of the chief niche is continued by a number of one-room chapels, listed here as type (1 d):

(d) *One-room exterior chapels in place of chief offering-niche: type (1 d).*

The one-room chapels, like type (1 c), may have the face of the mastaba exposed in the offering-room or a niche in the west wall. Two are attached to annexes of nucleus mastabas and cover practically the whole length of the annex, but as they are certainly subsidiary to the chapel of the main mastaba

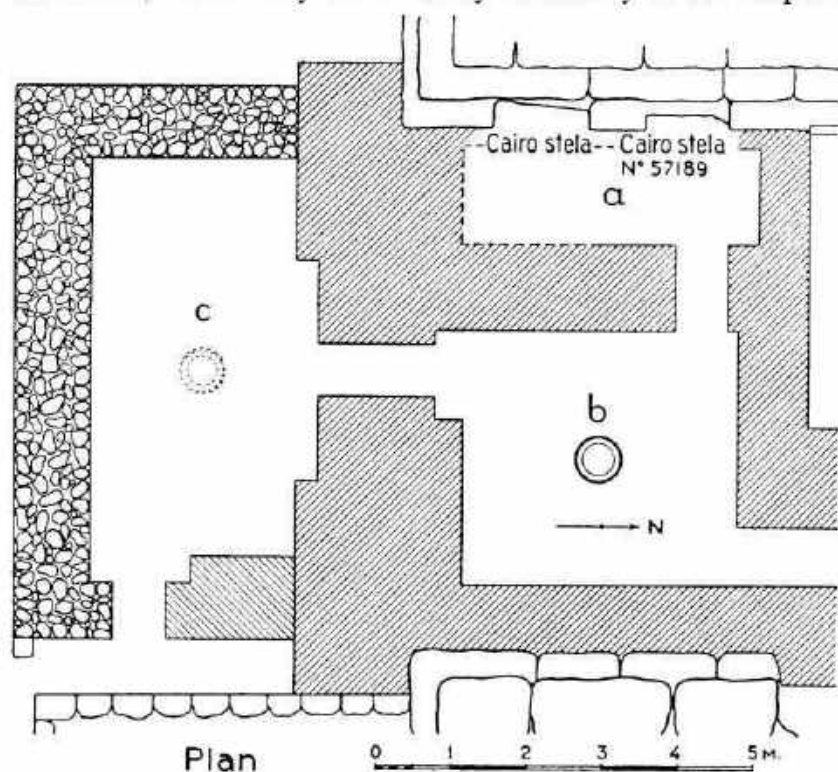


Fig. 107. G 4630

I do not class them as corridor chapels. This type is continued by chapel type (8 g), one-room exterior chapel attached to the chief niche of later mastabas.

(26) G 1225-annex: core type II a; subsidiary to mastaba of type II a with slab-stela; husband of a princess.

Chapel: single-room c.b. chapel around a monolithic stela set against the face of the core; entered from south:

3.4 × 1.65 m.; area, 5.61 sq. m.; prop. 1/2.07.

(27) G 1228 (annex to 1227): type II a of grey limestone.

Chapel: single N-S offering-room built with c.b. niches at south end of west wall; entered from north:

4.65 × 1.3 m.; area, 6.04 sq. m.; prop. 1/3.58.

(28) G 4530: core type IV i, uncased.

Chapel: rubble, near south corner with core façade exposed in west side; entered from east at north end of east wall:

5.0 × 2.4.; area, 12.0 sq. m.; prop. 1/2.09.

See Fig. 108.

(29) G 4620: core type IV i, uncased.

Chapel: rubble, exterior room near SE corner of east façade; entered from east at north end of east wall:

7.2 × 1.5 m.; area, 10.8 sq. m.; prop. 1/4.8.

(30) G 4420 N; core type IV i, uncased.

Chapel: single room c.b. at north end of façade; south end blocked by G 4421; single room with one (?) niche in c.b. west wall; entered from east at north end of east wall:

4.45 × 1.9 m.; area, 8.46 sq. m.; prop. 1/2.34.

Later intruded and obstructed by G 4422 with its chapel abutting on east face of G 4420 N.

(31) G 4820: core type IV i, uncased.

Chapel: rubble, one room south of middle; entered from east at south end of east wall; unexplained c.b. wall south of it:

4.05 × 1.7 m.; area, 6.89 sq. m.; prop. 1/2.38.

(32) G 4910: core type II a, uncased.

Chapel: one room, originally of c.b. with the east wall later replaced by thicker rubble wall; long N-S room with large niche south of middle in which stepped facing of mastaba was exposed. West wall, a large plain niche south of middle niche and small plain niche at north end of same wall: entered from east in north end of east wall:

10.2 × 1.4 m.; area, 14.28 sq. m.; prop. 1/7.29.

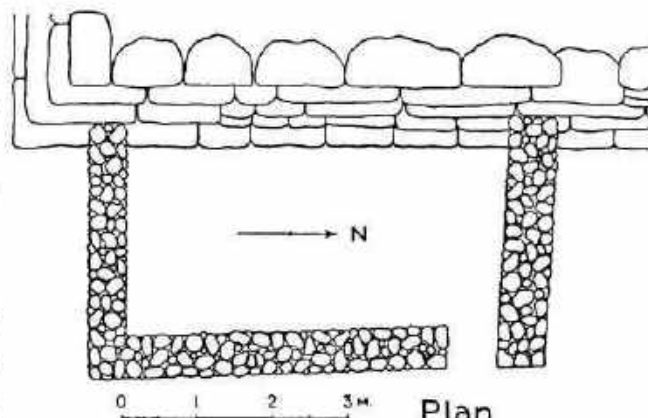


Fig. 108. G 4530

In addition to these thirty-two chapels a number of nucleus cores were found without any chapel preserved—G 4320, G 4720, G 4730, G 4740, G 4760, G 4830, G 4850, and G 4860. One of these, which had an unused burial-place (G 4730), probably had no chapel constructed. Others had no doubt had the c.b. chapel destroyed by weathering (G 4320) and the rest of the chapels had been destroyed by later constructions. G 4860, which had a slab-stela, had had its chapel destroyed by such constructions. There remain a number of chapels which were exterior to chapels of type (2) and type (3), type (4) and type (5). Before taking up these subsidiary c.b. chapels I give the following table of the chapels listed above to permit a review.

Chapels of type (1 a):

No.	Room a:		Whole chapel		Slab-stela
	area	Prop.	Rooms	Area	
(1) G 4250	19.5	1/2.17	3+	42.52	emplacement
(2) G 1203	10.03	1/3.47	3+ court	17.36	slab-stela; reserve
				26.15	head
(3) G 1205	15.78	1/3.76	5	28.88	slab-stela
(4) G 2100	..	..	..	..	emplacement
(5) G 4360	7.14	1/1.62	4 (5?)	22.29	slab-stela
(6) G 4460	13.23	1/3.0	4	32.29	slab-stela
(7) G 4560	..	..	3+	..	slab-stela

No.	Room a:		Whole chapel		Slab-stela
	area	Prop.	Rooms	Area	
(8) G 4350	11.93	1/2.35	4	27.61	slab-stela
(9) G 4450	7.99	1/2.75	3	14.06	emplacement
(10) G 2135	13.5	1/2.16	5	33.0	slab-stela
(11) G 1207	9.47	alcove room	3	16.22	slab-stela
(12) G 1209	8.42	alcove room	2+	9.58	no slab-stela
(13) G 1235	9.45	1/3.09, orig. alcove room	4	14.09	slab-stela
(14) G 1227	8.06	1/2.86, orig. 3	3	?	slab-stela
Mean areas of rooms a, 12 chapels: 7.14 to 19.5; mean, 11.12 sq. m.					
Mean props. of rooms a, 10 chapels: 1/1.62 to 1/3.76; mean, 1/2.72.					
Mean total areas: 9.58 to 44.12 sq. m.; mean, 23.58 sq. m.					
Mean numbers of rooms: 2+ to 5; mean, 3.54 rooms.					
Chapels of type (1 b):					
(15) G 4160	(a) 2.43 (b-c) 5.08	bent room	1+4	(a-f) 21.45 (b-f) 19.02	slab-stela; reserve head
(16) G 4260	(a) 3.52 (b-c) 3.9	bent room	1+3	(a-e) 18.97 (b-e) 15.45	slab-stela
Chapels of type (1 c):					
(17) G 1201	9.06	1/2.65	4	43.11	stone niche; slab- stela behind
(18) G 1225	12.43	1/2.82	2+	..	as G 1201
(19) G 4540	14.95	1/2.21	4	27.45	reserve head
(20) G 4550	6.74	1/1.12	5	22.73	face mastaba ex- posed
(21) G 4430	7.96	1/2.46	3	12.13	mono. inset in core
(22) G 4660	11.5	1/3.18	5	23.5	
(23) G 4650	(a) 11.88 (b) 3.82	1/1.88 1/0.46	5	27.45	stone niche in b.
(24) G 4330	5.05	1/2.6	2 para.	12.53	face of mastaba ex- posed
(25) G 4630	5.07	1/3.0	3	30.82	2 niches in west wall
Mean areas of rooms a, 9 chapels: 5.05 to 14.95; mean, 9.4 sq. m.					
Mean total areas, 8 chapels: 12.13 to 43.11; mean, 24.96 sq. m.					
Mean props. of rooms a, 9 chapels: 1/1.12 to 1/3.18; mean, 1/2.44.					
Mean numbers of rooms: 2 to 5; mean, 3.99 rooms.					
Chapels of type (1 d):					
(26) G 1225-annex	5.61	1/2.07	1	..	subsid.; mono. stela in west wall
(27) G 1228	6.04	1/3.58	1	..	annex to 1227; niche in west wall

No.	Room a:	Prop.	Whole chapel		Slab-stela
	area		Rooms	Area	
(28) G 4530	12.0	1/2.09	1	..	face of mastaba exposed
(29) G 4620	10.8	1/4.8	1	..	face of mastaba exposed
(30) G 4420 N	8.46	1/2.34	1	..	niche in west wall
(31) G 4820	6.89	1/2.38	1	..	
(32) G 4910	14.28	1/7.29	1	..	3 niches

Mean areas of rooms a, 7 chapels: 5.61 to 14.28 sq. m.; mean, 9.15 sq. m.

Mean props. of rooms a, 6 chapels: 1/2.07 to 1/3.58; mean, 1/2.87.

Summary of mean measurements:

Type (1 a):	11.12	1/2.72	3.54	23.58	Nos. 1-14
Type (1 b):	(a) 2.97	L	1+3.5	20.21	two: Nos. 15, 16
	(b-c) 4.49			17.23	
Type (1 c):	9.4	1/2.44	2 to 5	24.96	
				3.99	9 chapels: Nos. 17-25
Type (1 d):	9.15	1/2.87	1	5.58	5 chapels: Nos. 26-32

Taking the total area, chapels of types (1 a) and (1 c) have an area of about 24 sq. m., while the two chapels of type (2 + 1 b) may be considered to have equivalent areas taking into account the stone chamber. The chapels of type (1 d), which are probably later, show a decided decrease to about 8.5 sq. m., resulting from their reduction to one room. The mean area of the offering-room shows a slight decrease also through types (1 a), (1 c), and (1 d). The mean proportions of the offering-room of type (1 a) correspond closely with the proportions of the early chapels of types (2) and (3). In chapels of type (1 c) the offering-room shows a slight broadening (1/2.44), while in the later examples of type (1 d) the single room shows the lengthening which was characteristic of Dyn. V.

The chapels of type (1 a) began without doubt in the reign of Cheops and ranged into that of Chephren, with some reconstructions as late as Dyn. V. The two chapels of type (2 + 1 b) were attached to two of the five initial cores of the nucleus Cem. G 4000 and were also probably of the reign of Cheops. All these c.b. chapels could have been and probably were constructed in a few days, and the original chapels were probably constructed at the time of burial in the great shaft. Thus one example of type (1 c) was dated to the reign of Chephren by the sealing found in the burial-chamber (G 4430, No. 21), and I would assign chapels of type (1 c) to the reigns of Chephren and Mycerinus. Most of the chapels of type (8 f) attached to interspersed mastabas were from the end of Dyn. IV. The single-room chapel of type (1 d) and the similar chapels of type (8 g) attached to interspersed mastabas appear to range from the end of Dyn. IV to Neferirkara of Dyn. V.

(e) *Exterior c.b. chapels attached to stone chapels.*

The chapels of types (1 a, c, and d) contained the only offering-place of the mastaba (except in annex mastabas). The two chapels of type (1 b) also contained an offering-place, but were attached to an exterior stone chapel of type (2 a) which may or may not have contained a separate offering-niche.

There remain a number of exterior c.b. chapels which contained no distinctly marked offering-place and were subsidiary to chapels of type (2), type (3), type (4), or type (5), which bear the following designations:

Type (1 e): subsidiary to chapels of type (2).

Type (1 f): subsidiary to chapels of type (3).

Type (1 g): subsidiary to chapels of type (4).

Type (1 h): subsidiary to chapels of type (5).

Type c.b. (1 e): subsidiary to exterior stone chapels of type (2). Examples: G 4140, G 4240; see type (2).

Type c.b. (1 f): subsidiary to interior chapels of type (3). Examples: G 4150, G 1223, G 4710.

Type c.b. (1 g): subsidiary to interior chapels of type (4). Examples: G 4940.

Type c.b. (1 h): subsidiary to interior chapels of type (5). Examples: G 4000.

The subsidiary c.b. chapels provide rooms with functions similar to those of types (1 a-c) but lacking the offering-room. The most common rooms are the magazine and the vestibule; others were a sort of hall around the entrance to the offering-room, a statue room, and a court. Such exterior chapels are characteristic of important tombs and appear to have gone out of use at Giza about the beginning of Dyn. V, but this was probably due to the fact that the Giza mastabas of Dyn. V were usually small or intruded in areas crowded with mastabas.

(2) *Exterior Stone Chapels, Type (2) with One Niche*

The exterior stone chapel occurs only in cased mastabas and is built around one of the niches, usually the S-niche of a two-niche mastaba. These chapels have the characteristic L-shape of all the Giza chapels. The *ka*-door or main offering-niche is at one end of the offering-room in the west wall, usually at the south end. The niche is a deep square compound niche with drum, cross-bar, tablet, and architrave. In the face of the casing towards the north end is a subsidiary niche of similar proportions, except that it is higher. The entrance doorway also has a drum, and usually an architrave, over the door. There are two completed chapels of this type and some others which may have been completed but are now so destroyed that their finished state cannot be determined.

The west wall of the exterior stone room is in most cases clearly the white stone casing of the core, but in two cases the casing was interrupted north of the chapel to leave a slab-stela exposed to view, and this stela was surrounded by a c.b. offering-room of type (1 b) (q.v.). Neither of these two rooms was sufficiently preserved to determine whether it was the main offering-room or a decorated room subsidiary to the c.b. room with slab-stela. Both were at the south end of the façade of the core. This form I mark as type (2 a) (see Figs. 102, 103). The others have a niche in the west wall which is either in the casing or built against the core, as far as can be ascertained in their present state. These I designate type (2 b). Only one example of type (2 b) has a slab-stela (G 4140). In this the stela was probably covered or intended to be covered by the casing (cf. G 1201, G 1223, and G 1225).

The list of chapels is as follows:

(a) Chapels of type (2 a)+(1 b):

(1) G 4160: core type II b with unfinished y-casing; slab-stela; reserve head.

Chapel: exterior room of white limestone; with c.b. chapel of type (1 b) against north end of stone room and built around slab-stela fixed in core wall:

(a) 2.7 × 0.9 m.; area, 2.43 sq. m.; prop. 1/3.0.

Chapel type (1 b): see above, No. 15.

Total area: 21.45 sq. m.

See Fig. 102.

- (2) G 4260: core type II b, cased with y-masonry; slab-stela.

Chapel: similar to No. 1:

(a) 3.35×1.05 m.; area, 3.52 sq. m.; prop. $1/3.2$.

Chapel type (1 b): see above, No. 16.

Total area: 18.97 (incomplete?).

See Fig. 103.

- (b) Exterior stone offering-room, type (2 b):

- (3) G 2110: core type II a, cased with y-masonry, finished; reserve head.

Chapel: exterior stone offering-room around south niche of casing; subsidiary north niche in casing:

(a) 3.7×1.15 m.; area, 4.25 sq. m.; prop. $1/3.21$.

See Fig. 109.

- (4) G 4140: core type III i, with unfinished y-casing; slab-stela; two reserve heads.

Chapel: exterior stone chapel of which only the foundation platform was preserved; apparently with two parallel N-S rooms:

(a) offering-room: 4.3×1.5 (?) m.; 6.45 sq. m.; prop. $1/2.87$.

(b) east of a, vestibule: 4.3×1.0 m.; 4.3 sq. m.

Measurements conjectural; north of stone chapel, a subsidiary c.b. chapel of type (1 e); open court.

- (5) G 4240: core type IV i, cased with x-masonry; reserve head.

Chapel: exterior offering-room of x-masonry; niche near south end of west wall; built around south niche (subsidiary north niche in casing); door at north end of east wall: unfinished decoration:

(a) 3.62×1.55 ; area, 5.61 sq. m.; prop. $1/2.33$.

Exterior c.b. chapel of four rooms: area, 20.52 sq. m.

Total area, a-e: 26.13 sq. m.

See Fig. 110.

- (6) G 4340: core type IV i, x-casing (unfinished); reserve head.

Chapel: exterior stone offering-room, unfinished or destroyed; north of chapel G 4341, built against face of G 4340; only platform of stone chapel preserved; east of it, remains of exterior c.b. chapel.

- (7) G 4440: core type IV i, x-casing destroyed; two reserve heads.

Chapel: exterior stone chapel nearly totally destroyed; remains of subsidiary c.b. chapel of at least three rooms.

- (8) G 4640: core type IV i, with unfinished x-casing.

Chapel: exterior stone offering-room with niche at south end of west wall; door at north end of east wall:

(a) 3.9×1.4 m.; area, 5.46 sq. m.; prop. $1/2.79$.

D d

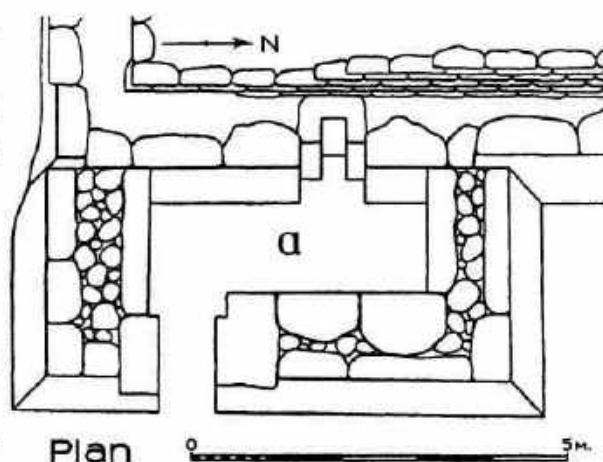


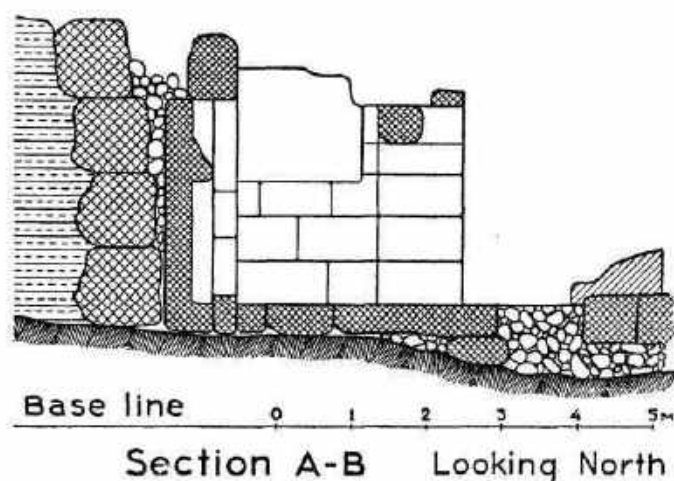
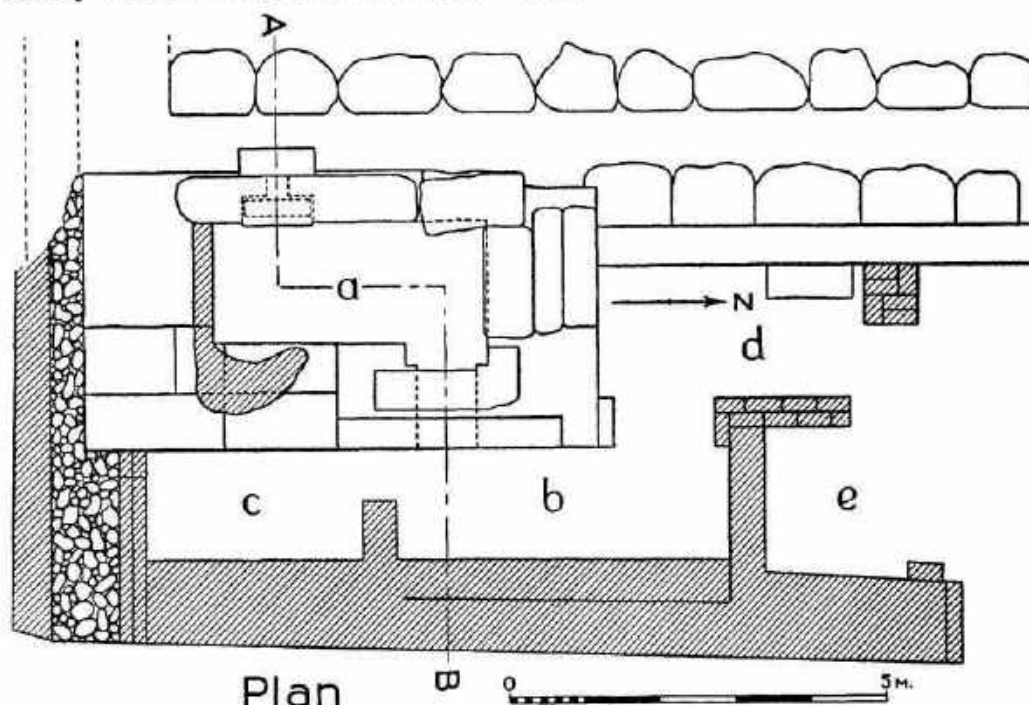
Fig. 109. G 2110

(9) G 4750: core type IV i, casing unfinished or destroyed.

Chapel: exterior stone offering-room; niche on south; door on east:

(a) 3.7×2.0 m.; area, 7.4 sq. m.; prop. 1/1.85.

(10) G 4840: core type IV i, uncased; (?) fragment of slab-stela probably from behind chapel; subsidiary north niche, monolith inset in core.



Chapel: exterior stone offering-room; niche on south; door in east wall:

(a) 5.0×1.5 m.; area, 7.5 sq. m.; prop. 1/3.33.

Mean area of rooms a, 6 chapels: 5.32 sq. m.

Mean props., rooms a: from 1/1.85 to 1/3.33: mean, 1/2.75 (6 chapels).

Some of these mastabas of type IV had subsidiary c.b. chapels of type (1 e) and it is probable that all had such chapels originally. In the Eastern Field a number of chapels of the interior stone type have subsidiary exterior rooms built of stone: G 7110+20, G 7310+20, G 7410+20, G 7130+40, G 7430+40, G 7050. All these are counted for the purposes of classification as interior chapels with subsidiary exterior rooms.

(3) *The Interior Stone Chapel of Type (3)*

As has been explained elsewhere, the interior chapel, a cruciform chapel in c.b. mastabas, was developed by withdrawing the chief, southern niche, within the mastaba in order to protect its decorations. The first certain examples are in the reign of Khasekhemuwy and it was in general use in Dyn. III. At Saqqarah and Medum in the mastabas of the reigns of Sneferuw and Cheops, the interior cruciform chapel was in use (see *Tomb Development*, Chapter X). At Giza the chapel had an L-shaped offering-room either exterior or interior. The L-shaped offering-room appears first in the small c.b. mastabas of Tarkhan, where it was an exterior open-air chapel. In the subsidiary tombs of the Zoser complex the L-shaped stone offering-room appears definitely developed as an interior room. At Giza the earliest chapels with L-shaped offering-rooms appear with few exceptions to be exterior chapels, some of c.b. and some of stone. All the cores of the nucleus mastabas were constructed without niches and without any recess for an interior chapel, Cem. G 1200, Cem. G 2100, Cem. G 4000, the Echelon Cemetery, the twelve original cores in G 7000, and the ten cores in Cem. G I S. All these cores which were finished with interior chapels had that chapel built in a recess broken in the old core, or built in an addition to the core of masonry of type IV. The mastabas finished with interior chapels were those of more important persons, and include those of the largest size. The interior chapels of the mastabas cased in white stone were always of white limestone and some of the interior chapels in mastabas of type VI were also of white stone, although many of them were of grey stone like the retaining wall. The interior chapels which were built in additional core-work were as follows:

- (1) G 1201: core II a + IV iii; casing y; chapel (3) unfinished + (1 c); core of abnormal size; Prince Wepemnofret.
(a) 4.9×1.85 ; area, 9.06 sq. m.; prop. 1/2.65.
See Fig. 104.
- (2) G 1223: core II a + IV iii; casing y, unfinished; chapel (3) + subsidiary c.b. type (1 c); core of normal size; Prince Ka-m-aha.
(a) 4.25×1.55 ; area, 6.59 sq. m.; prop. 1/2.74.
See Fig. 111.
- (3) G 1225: core II a + IV iii; casing y, unfinished; chapel (3) unfinished + chapel (1 c); Princess Nefert-yabet.
- (4) G 4150: core II b + IV iii; casing y, unfinished; chapel (3) unfinished (?); core of normal size; Prince Yuwnuw.
- (5) G 2210: core II a + IV iii; casing x, unfinished; chapel recess in additional core; probably intended for chapel type (3 a).

The additional core-work of these five mastabas was so constructed as to leave room for the interior chapel near the southern end of the eastern face. The mastabas in which the old original core was broken and altered, so that a recess for the interior chapel was created, were as follows:

- (6) G 2130: core II b; casing y (?); chapel (3 a) with subsidiary c.b. chapel; size of core abnormal; Prince Khent-ka (?).
 4.5×1.6 m.; area, 7.20 sq. m.; prop. 1/2.81.
See Fig. 112.
- (7) G 2140: core II a of normal size, uncased; chapel type (3 a), inserted in break in core with unfinished inscription.
(a) 2.65×1.1 m.; area, 2.91 sq. m.; prop. 1/2.4.

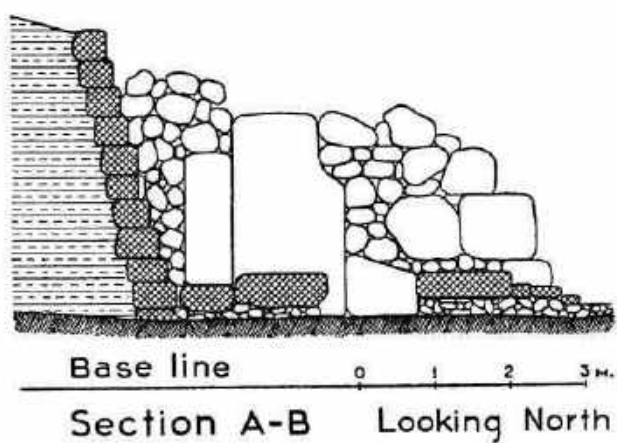
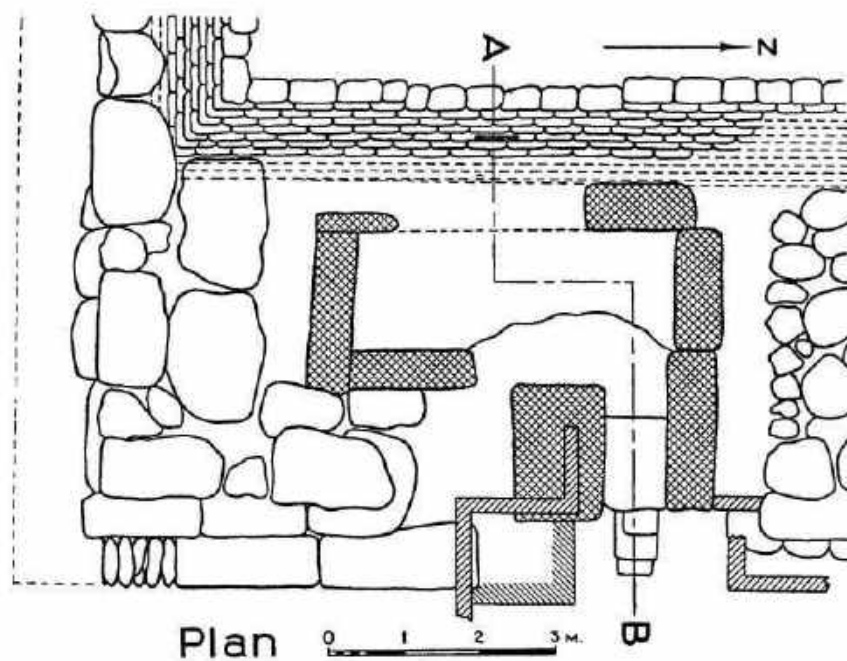


Fig. III. G 1223

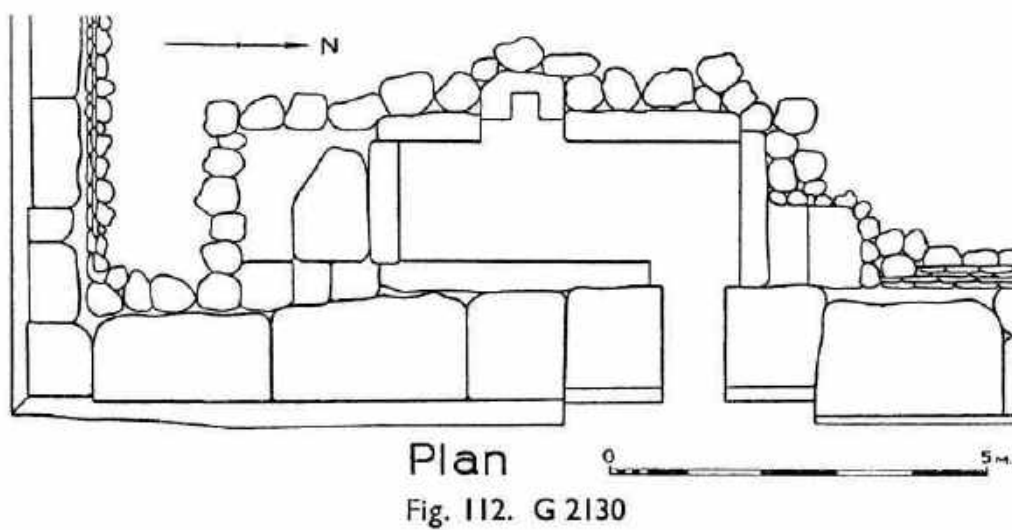


Fig. II2. G 2130

- (8) G 7110+7120: twin-mastaba; two cores of type IV i joined with core-work of type IV; casing x; two chapels of type (3 a) (with special form of niche); core reconstructed with recesses for chapels; Prince Ka-wab and Hetep-heres II (?).

7120 (a) 4.0×1.6 m.; area, 6.4 sq. m.; prop. 1/2.5.

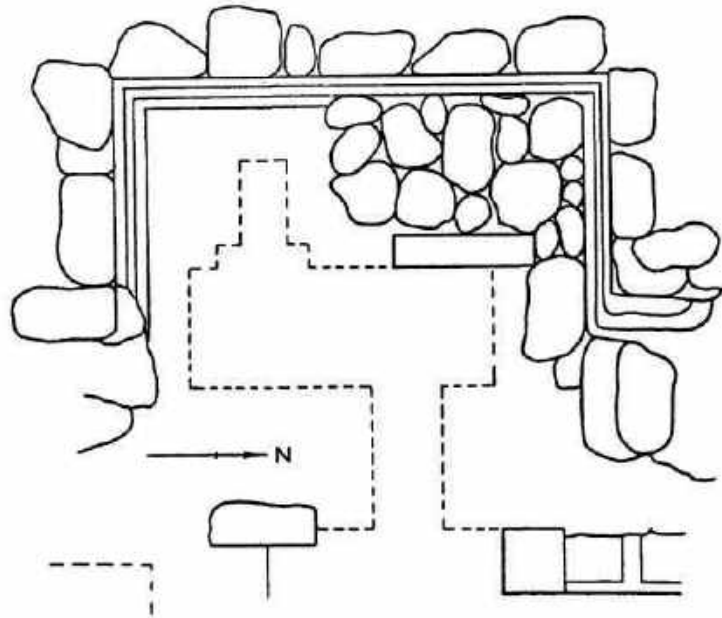
7110 (a) partly destroyed, leaving the monolithic niche.

See Fig. 113.

- (9) G 7210+7220: like No. 8; Prince Hordedef and his wife.

7220 (a) 4.15×1.65 m.; area, 6.84 sq. m.; prop. 1/2.51.

7210 (a) 4.3×1.6 (?); area, 6.88 sq. m.; prop. 1/2.67.



Plan 0 1 2 3m.
Fig. 113. G 7120

- (10) G 7310+7320: like Nos. 1 and 9; Prince Ra-bauwf (?) and his wife.

7320 (a) 4.15×1.65 m.; area, 6.84 sq. m.; prop. 1/2.52.

7310 (a) 4.15×1.55 m.; area, 6.43 sq. m.; prop. 1/2.67.

- (11) G 7410+7420: like Nos. 8-10; except that the remodelled cores were converted into type III ii by facing of small-stepped courses; Queen Meresankh II and her husband (?).

7420 (a) 4.25×1.55 m.; area, 6.58 sq. m.; prop. 1/2.73.

7410 (a) 4.2×1.55 m.; area, 6.51 sq. m.; prop. 1/2.7.

- (12) G 7130: northern part of twin-mastaba; core type IV i with added core of type IV iii on south; casing x unfinished; recess for wife chapels reconstructed in core IV i; type (3 a) with deep compound niche; Nefert-kauw, wife of Prince Khuwfuw-khaf.

7130 (a) 4.3×1.5 m.; area, 6.45 sq. m.; prop. 1/2.86.

- (13) G 7430+7440: core type IV i/IV iii; casing poor x; chapel type (3 a) inserted in break in core IV i with exterior subsidiary stone and c.b. rooms: Prince Min-khaf.

7430 (a) 4.25×1.35 m.; area, 5.73 sq. m.; prop. 1/3.15.

The unrecessed cores of six of the twin-mastabas were altered to take chapels of type (3 a). Other cores in Cem. G 4000 and the Cem. en Échelon have been broken to admit chapels of type (3 a) and later chapels of type (4).

The cores constructed with recesses for an interior chapel of type (3) and intended to have such chapels *ab origine* are all in later positions in the cemeteries.

The examples are as follows:

- (14) G 7140: twin-mastaba; southern addition of core IV iii; casing x finished; chapel (3 a) with one square compound niche and exterior stone chapel; Prince Khufuw-khaf.

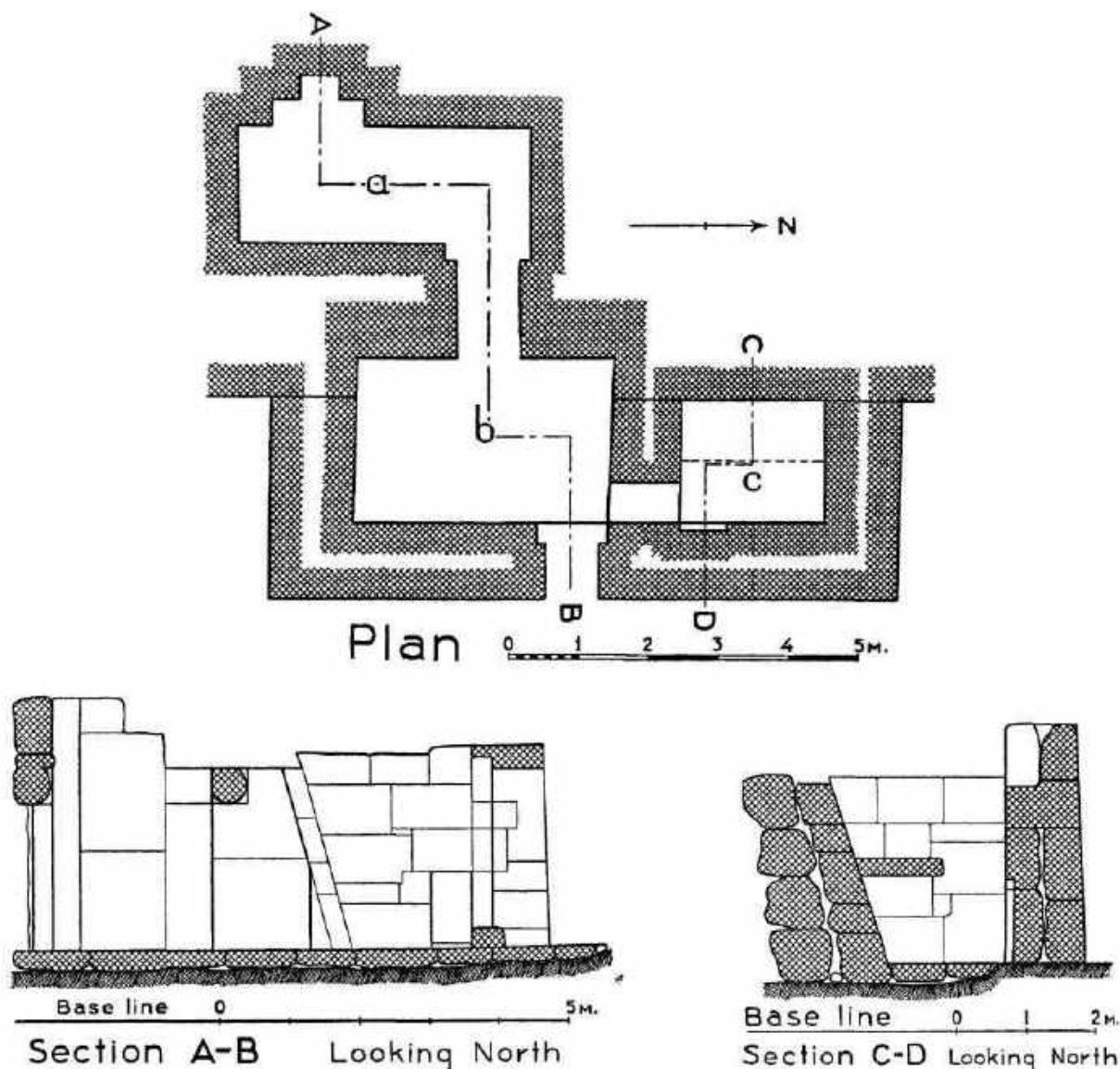


Fig. 114. G 7140

(a) 4.15×1.65 m.; area, 6.84 sq. m.; prop. 1/2.51.

See Fig. 114.

- (15) G 7240: southern addition of core IV iii; casing x unfinished, and finished with c.b. casing; interior chapel (3 a) of c.b.; with exterior c.b. chapel.

(a) 3.15×1.25 m.; area, 3.93 sq. m.; prop. 1/2.52.

- (16) G 7340: southern addition of core IV iii; core not cased; interior chapel (3 a) of rubble and c.b.

(a) 3.95×1.5 m.; area, 5.92 sq. m.; prop. 1/2.63.

- (17) G 7440: southern addition of type IV iii; casing poor x; the main chapel was inserted at the north end of east face; the recess in the southern end was packed with masonry and covered with

the stone casing in which a subsidiary offering-niche was set; with exterior chapel of u-masonry; Prince Min-khaf.

See Fig. 115.

- (18) G 7530+7540: core type IV i, shifted southwards and extended by backed wall of type IV iv; casing of type X, dated to the 13th year of Chephren; interior chapel (3 b) with exterior stone chapel unfinished (?); built for Hetep-heres II but not used.

(a) 4.75×1.5 m.; area, 7.12 sq. m.; prop. $1/3.11$.

- (19) G 7450: core IV iii; no casing; interior stone chapel finished; type (3 a).

(a) 4.3×1.6 m.; area, 6.88 sq. m.; prop. $1/2.68$.

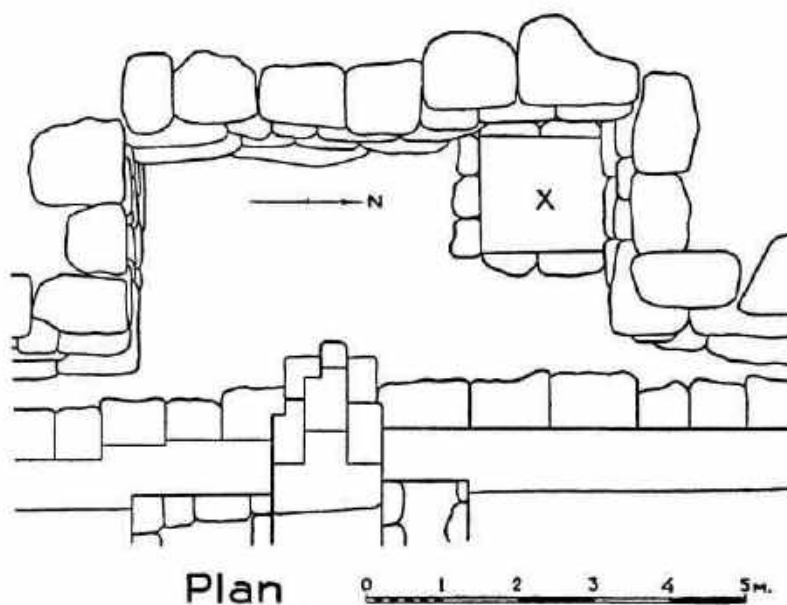


Fig. 115. G 7440

- (20) G 7350: core IV iii; casing y, finished; chapel (3 a) finished serdab; interior chapel type (3 a); Queen Hetep-heres II (?).

(a) 4.25×1.50 m.; area, 6.37 sq. m.; prop. $1/2.83$.

See Fig. 116.

- (21) G 7050: mastaba type V; casing x, finished; chapel type (3 b) with exterior room; Queen Nefert-kauw (?).

(a) 4.65×1.57 m.; area, 7.3 sq. m.; prop. $1/2.96$.

The Cem. G I S, south of the First Pyramid, also presents three interior chapels of type (3 a), built in recesses broken in the cores:

- (22) G I S No. 6: name not preserved; mastaba type VI x.

Core IV i with chapel recess broken out; chapel type (3) of white limestone; one shaft, type (3) (?) with turning recess; granite coffin uninscribed.

White casing dated by inscriptions to 2-6 years of Mycerinus; casing built by *aperuw* of Mycerinus.

- (23) G I S No. 3: Prince Khufuw-dedef, *hry wdb nswt*.

Core IV i with recess for chapel broken out; mastaba type VI z and x; chapel type (3) of white limestone bonded with interior casing (y); shaft type 3, blocking type I; inscribed granite coffin: shaft, $1.83 \times 1.7-1.77$ m.

- (24) G I S No. 2: Ka-m-nofret, *tpy hr nšwt*, [šš] r n [nšwt].

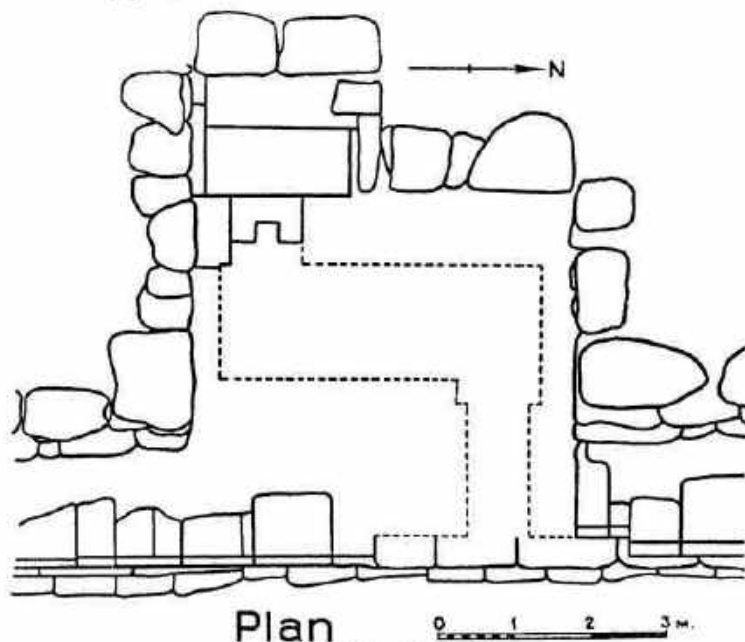
Core IV i, with recess broken in core; mastaba type VI y; chapel type (3), white limestone; shafts (two), type 3, with turning recess; granite coffin inscribed; north shaft of type 7 x (2 m. shaft, 9.5 m.).

Date, probably Mycerinus.

In the Western Field two cores, one in Cem. G 4000 and the other in Cem. en Échelon, have also been broken out to contain interior chapels of type (3 a):

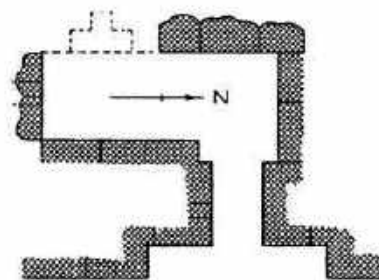
- (25) G 4710: Sethuw, *šmr wcty hrp ch*, *hry ššt n pr dwt*, *hry tp Nhḥ*, *hry wdb ḥ-t cnḥ*.

Core type IV i; mastaba type VI a; chapel type (3 a) with white limestone walls; shaft type 4 a (2) x; limestone coffin.



Plan

Fig. 116. G 7350



Plan

Fig. 117. G 4710

(a) 3.15×1.15 m.; area, 3.6 sq. m.; prop. 1/2.74.

See Fig. 117.

- (26) G 5010: no inscriptions.

Core type II a; chapel type (3 a) of white stone inserted in old core; shafts, types 6 a (2) and 6 b (2).

(a) 3.0×1.1 m.; area, 3.3 sq. m.; prop. 1/2.73.

The nummulitic mastabas with one-niched chapels are as follows:

- (27) G 7550: 'Prince' Duwanchor.

Mastaba type VI a; chapel type (3 a), of nummulitic limestone, decorated; two shafts, types 3 amx, and 6 b (2) (unfin.).

Son of Ka-wab and Hetep-heres II (?).

(a) 4.7×1.6 m.; area, 7.52 sq. m.; prop. 1/2.94.

See Fig. 118.

- (28) G 7660: 'Prince' Ka-m-sekhem.

Mastaba type VI a; chapel type (3 a); two shafts, types 3 afx (two rooms: gran. sarc.), and 3 cl.

Son of Ka-wab and Hetep-heres II (?).

(a) 4.52×1.53 m.; area, 6.17 sq. m.; prop. 1/2.85.

(29) G 7760: 'Prince' Min-dedef.

Mastaba type VI a; chapel type 3 a, of nummulitic limestone, decorated; two shafts, types 3 al (two rooms: gran. sarc.) and 3 bfx.

Son of Ka-wab and Hetep-heres II (?).

(a) 4.52×1.53 m.; area, 6.91 sq. m.; prop. 1/2.95.

(30) G 7750: name destroyed.

Mastaba type VI a; chapel type (3 a), of nummulitic limestone, decorated; two shafts; chief shaft with two chambers, type 3 am and unfinished; second shaft, type 3 bf.

Probably also a son of Ka-wab and Hetep-heres II.

(a) 4.4×1.56 m.; area, 6.86 sq. m.; prop. 1/2.82.

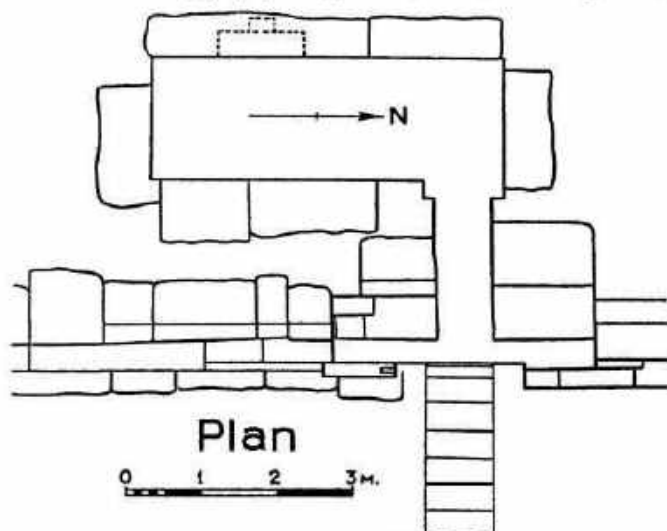


Fig. 118. G 7750

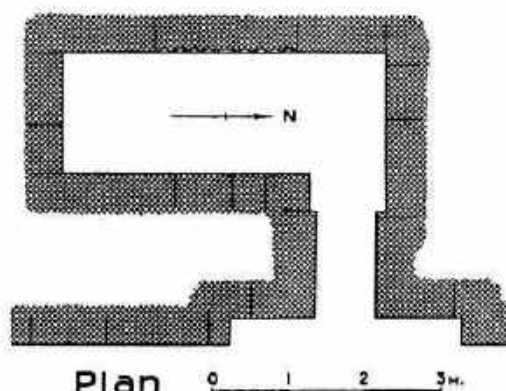


Fig. 119. G 7060

(31) G 7060: Prince Neferma'at.

Mastaba type VI a; chapel type (3 b), of nummulitic limestone; decorated; chief shaft type 4 b (4) x.

Probably son of Cheops and Nefert-kauw.

(a) 4.25×1.6 m.; area, 6.8 sq. m.; prop. 1/2.65.

See Fig. 119.

(32) G 7070: *sn nswt* Sneferuw-khaf.

Mastaba type VI a; chapel type (3 b), of nummulitic limestone; partly decorated; two shafts; chief shaft, type 4 b (4) x.

(a) 4.25×1.6 m.; area, 6.8 sq. m.; prop. 1/2.65.

(33) G 7820: Princess Nefert-kauw and her husband Iy-nefer (?).

Mastaba type VI a; chapel type (3 a), of nummulitic limestone; decorated; two shafts, types 3 af and 4 b (1).

Possibly daughter of Queen Meresankh II.

(a) 4.25×1.57 m.; area, 6.67 sq. m.; prop. 1/2.7.

(34) G 7810: Prince Zaty.

Mastaba type VI a; chapel type (3 a), of nummulitic limestone; decorated; shafts, types 3 bf and 3 afx.

Possibly son of Queen Meresankh II.

(a) 4.2×1.5 m.; area, 6.3 sq. m.; prop. 1/2.8.

- (35) G 7560: south of 7550; name not preserved.

Mastaba type VI a; chapel type (3 a), of white limestone; decorated; shafts types 4 b (1) x and 7 x.

(a) 4.4×1.55 m.; area, 6.82 sq. m.; prop. 1/2.84.

- (36) G 7670: south of 7660.

Mastaba type VI a; chapel type (3 a) of white plastered c.b., with exterior c.b. chapel; shafts types 3 bf and 4 b (1).

(a) 4.1×1.5 m.; area, 6.15 sq. m.; prop. 1/2.73.

Two outlying mastabas in the Western Field are to be added:

- (37) G 1457: Nesuwt-nefert (sic), *rh nswt, hm ntr Hwfw, imy-r: rht-hwfw* (town), *hrp wcb nswt, imy-r: wcbt nswt hry sst: n nswt*.

Mastaba type VI e (1); area, 205.8 sq. m.; on independent site west of Cem. G 1200; chapel type (3 a); two shafts, types 4 b (1) and 3 bm (6.67 sq. m.).

Sealing of Mycerinus.

(a) 2.8×1.28 m.; area, 3.57 sq. m.; prop. 1/2.19.

- (38) G 1109: name lost but wife's name Meryt-ib, *hm ntr Ht-hr, rht nswt*.

Mastaba type VI e, twin; area, 142 sq. m.; on independent site between G 1201 and G 1020; chapels, two of type (3 a) with exterior corridor chapel of type (5 x) and magazine; eight shafts: two chief shafts are of types 6 b (2) and 6 a (2) with areas of 2.0 sq. m. or a little more; both chapels of same size.

(a, d) 1.6×0.55 m.; area, 0.88 sq. m.; prop. 1/2.9.

Examples of one-niched chapels occur also in the mastabas of the secondary cemeteries but not in great number. Some of these not in mastabas with subsidiary north niche are listed later under chapel type (4 b). I give here reference to two one-niched chapels of later date with subsidiary north niche.

- (39) G 7152: mastaba type VI a or VIII a; on independent site; chapel is an abnormal variation of type (3 a) with one niche, a shallow 'false door' stela at the south end of the west wall and opposite the entrance doorway; decoration of mixed character; two shafts, types 5 b (2) and 6 b (3).

Husband of a princess; offering formula in name of Osiris.

(a) 4.5×1.43 m.; area, 6.43 sq. m.; prop. 1/3.15.

- (40) Selim Hassan, *Giza*, I, p. 62; Meruwka.

Mastaba type VI c; chapel type (3) with great door niche on south; subsidiary northern niche; one shaft, type 5 b (1).

(a) 4.2×1.55 m.; area, 6.51 sq. m.; prop. 1/2.7.

All the chapels of mastabas of type VI were constructed in one operation with the construction of the retaining wall, as were the interior chapels of all mastabas of w-masonry, whether original filled mastabas or cased mastabas built around an old mastaba-core of the royal cemeteries. The chapels of these mastabas present both the two-niche and the one-niche form.

I have divided the interior L-shaped chapels at Giza into two types, those with one-niche offering-room (type 3), and those with two-niche offering-room (type 4). The exterior c.b. chapels and the exterior stone chapels attached to royal mastaba-cores are also of the one-niche type. It is to be remembered that while the chapels of type (1) are built around the slab-stela or an exposed vertical strip of the retaining wall of the mastaba, the later c.b. chapels derived from it (type 8 f) are built around one of the niches in the face of the mastaba. Chapels of type (2), exterior stone chapels, are in the earlier forms

built around one of the niches in the casing. The chapels of types (3) and (4), on the other hand, have the niche or niches constructed in the west wall of the chapel inside the body of the mastaba.

The mastabas with one-niche rooms include all those with exterior chapels in the royal cemeteries, chapels of type (1) and (2). The chapels of type (1) have the simple c.b. niche as those with slab-stela spoken of above. The chapels of type (2) have the square compound niche which was that generally used also in the interior chapels of type (3 a). But four or five of the chapels of type (3) have in the middle of the west wall a more shallow compound niche set in palace-façade panelling, and this variation is labelled type (3 b). Chapels of type (3 b): Nos. 18 (G 7530+40), 21 (G 7050), 31 (G 7060), and 32 (G 7070). With the exception of two mastabas in the Western Field all the cores of the original royal cemeteries have one-niche chapels. Two of the mastabas of the early additions to Cem. G 7000 have two-niche offering-rooms. All the other original cores which have two-niche offering-rooms, such as G 2150 and G 4520, can be proved to have been reconstructed after the reign of Mycerinus. The later mastabas of the transition period between Dyns. IV and V, with rare exceptions, all have two-niche rooms. Thus the introduction of the two-niche room becomes of importance, and the four older mastabas with this chapel type (4) require special examination. The date of the transition from one-niched to two-niched chapels is approximately marked as the latter part of Dyn. IV. It is highly improbable that the change took place suddenly so that we could mark a point in time before which all chapels were one-niched and after which all chapels were two-niched. The scrutiny of the examples proves that the two-niche chapel was used in five mastabas previous to the reign of Mycerinus. These chapels belonged to a queen of Cheops, three princes of the royal family, and to a queen or a princess. Two of the mastabas concerned are the two enormous mastabas, G 2000 in the Western Field and G 7510 in the Eastern Field. In the large mastabas after the reign of Mycerinus the chapels were usually the two-niched chapels of type (4 a) down to the end of Neferirkara. The transition from the prevailing one-niched to the prevailing two-niched chapel occurred in the reign of Mycerinus and is best observed in the rock-cut chapels of the members of the family of Chephren in the old Cheops-Chephren quarry. After Neferirkara, in chapels of (4 b), (5), (8), and (9), the two-niched offering-room occurs frequently but accompanied by offering-rooms with one niche, several pairs of niches, or an irregular arrangement of the niches. In the chapels of type (7) the main offering-room was one-niched but other offering-rooms occur subsidiary to the one-niched room.

(4) *Early Two-niched Chapels and Chapels of Type (4 a)*

(a) *Early chapels.*

There are five two-niched chapels which I date to a period previous to Mycerinus. One is a pyramid chapel, one is a corridor chapel of type (5), and the other three are chapels of type (4 a), as follows:

(1) G I-b: second small pyramid of a queen.

Stepped core, filled and cased with x-masonry; small cruciform temple of white limestone in middle of east face; offering-room with two compound niches in vertical west wall; entrance in middle of east wall with small vestibule; burial-shaft of the sloping-passage type of the Giza pyramids; anteroom connected by sloping corridor with large chamber lined with masonry.

(a) 10.5 × 2.1 m.; area, 22.05 sq. m.; prop. 1/5.0.

See Fig. 120.

(2) G 4000 (Junker): Prince Hemyuwnuw.

Core type II b+IV iii; mastaba type VIII x, cased with fine white limestone; chapel type (5 a)

of white limestone; two shafts, type 1 arx and an unfinished and unlined chamber intended to be of the same form but finished as type 3 brx (unfin.).

(a) 36.9×1.56 m.; area, 57.56 sq. m.; prop. 1/23.66.

See Fig. 121.

- (3) G 2000: member of the royal family.

Core type III b; with two chapel recesses, of which the south was used and north was walled up with subsidiary north niche in facing; casing of white limestone begun but not finished; chapel type (4 a), of white limestone, destroyed to foundation; one shaft of type 2 alx (ramp), in position of man's shaft in the two-shaft mastaba.

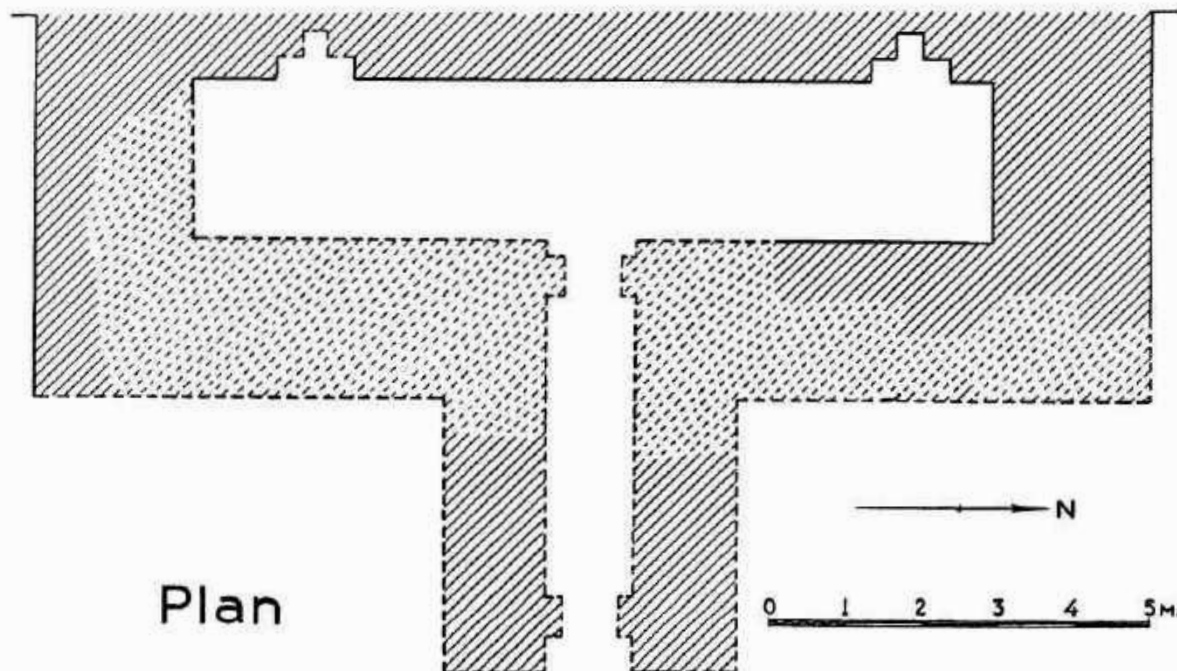


Fig. 120. G 1-b

(a) 4.5×1.75 m.; area, 7.87 sq. m.; prop. 1/2.57.

With exterior c.b. chapel.

Chapels of the six massive cores built after the twin-mastabas of Cem. G 7000.

- (4) G 7510: Prince Ankh-haf.

Core type IV iii; mastaba type VII x; chapel type (4 a); one shaft in the position of the man's shaft; type 2 amx (ramp).

First mastaba east of the nucleus cemetery.

(a) 7.55×1.65 m.; area, 12.5 sq. m.; prop. 1/4.58.

See Fig. 122.

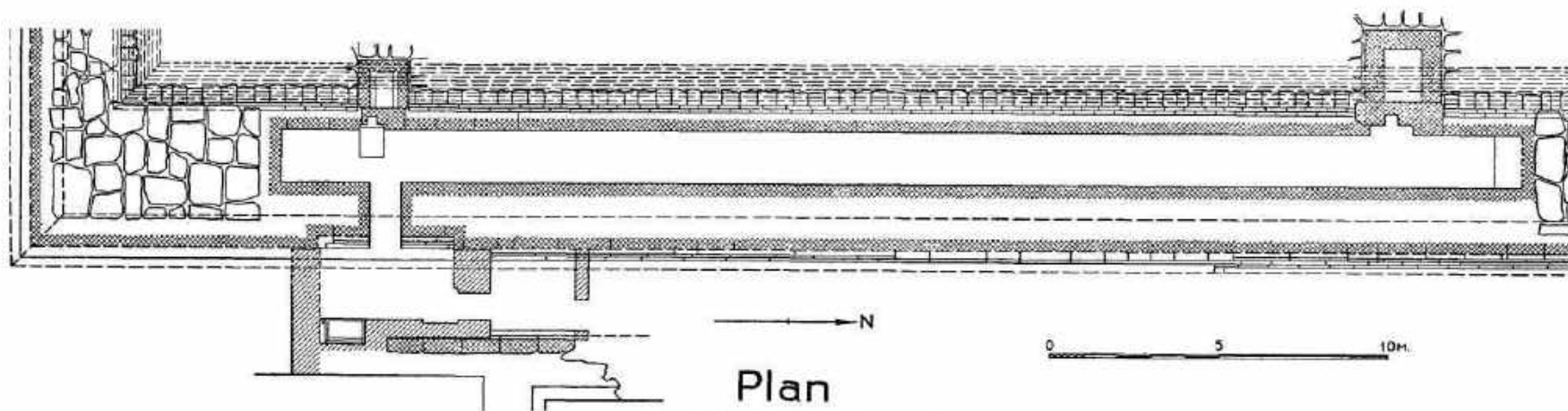
- (5) G 7650: Queen Merytyetes (?), Akhet-hetep, and Princess Merytyetes.

Core type IV iv; mastaba type VII x; chapel type (4 a); three shafts; types 3 afx (gran. sarc.), 7 x, and 3 amx.

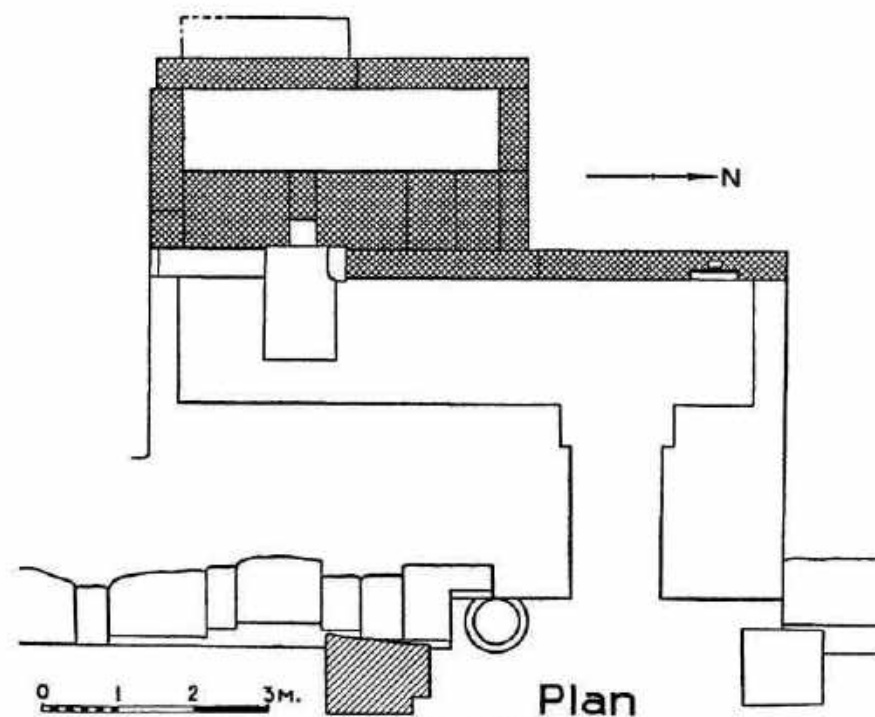
By position next in date to G 7510.

(a) 6.0×1.7 m.; area, 10.2 sq. m.; prop. 1/3.53.

No. 1 was undoubtedly of the reign of Cheops. I assign No. 2 (Hemyuwnuw) to about the same time. No. 3 was also made about the end of the same reign, while Nos. 4 and 5 may be safely assigned to the reign of Chephren.



Plan
Fig. 121. G 4000 (Junker)



Plan
Fig. 122. G 7510

(b) *Two-niched chapels of type (4 a).*

Clearly later in date than the five chapels listed above, we have eleven chapels of type (4 a) in mastabas which enclose old cores of the four nucleus cemeteries of the Western Field. One of these, G 5080, is dated by a sealing to Shepseskaf and another, G 4520, also by a sealing to Weserkaf. All of them are in the old traditional position in the SE corner of the mastaba, which has a subsidiary north niche. I assign these mastabas to the period from the end of Mycerinus to the end of Neferirkara, remembering that isolated examples may be a little earlier or a little later. The chapels of the reign of Mycerinus belonging to members of the royal family or the court as listed under the rock-cut chapels have partly one-niched and partly two-niched offering-rooms. The chapels of type (4 a) are partly contemporaneous with these rock-cut chapels, but are in general later than the earlier ones. The chapels of type (4 a) were continued after Neferirkara with similar two-niched chapels, which will be listed later as chapels of type (4 b), which have no large subsidiary north niche.

The examples of chapels of type (4 a) are as follows:

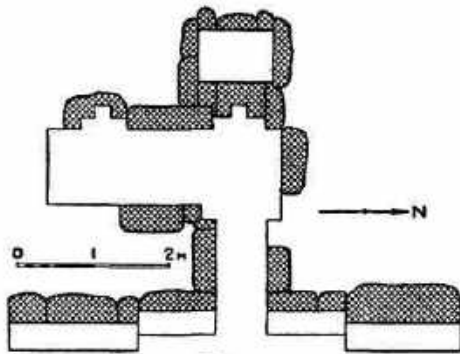
- (6) G 2150: Kanofer; core type II a, converted by casing into type VII b; area, 302.4 sq. m.; prop. 1/2; chapel of type (4 a), of white limestone; shafts types 4 b (1) and 6 a (3).
 (a) 3.15 × 1.05 m.; area, 3.3 sq. m.; prop. 1/3.0; fully decorated, partly destroyed; relation, 1/91.33; dated by estate name to a time later than Mycerinus; serdab behind north niche.
 See Fig. 123.
- (7) G 2155: 'Prince' Kaninesuwt, *šm hrp šndyt*, priest of Horus; Junker, *Giza*, II, pp. 135-170; core type II a, cased with mixed masonry and converted into type VII x; area, 419.28 sq. m.; prop. 1/2.59; chapel type (4 a), of white limestone; fully decorated; shaft type 4 a (4).
 (a) 3.7 × 1.5 m.; area, 5.55 sq. m.; prop. 1/2.46; relation, 1/73.76; two Sneferuw estates; serdab behind south niche.
- (8) G 4970: Nesuwt-nofer, *rh nswt*, 'steward of the king's children'; Junker, *Vorbericht*, 1912; core type II a, cased as mastaba type VII a; area, 268.27 sq. m.; prop. 1/2.23; chapel type (4 a), of nummulitic limestone (one white limestone block over doorway), fully decorated; one shaft; serdab behind south niche.
 (a) 3.15 × 1.25 m.; area, 3.93 sq. m.; prop. 1/2.52; relation, 1/68.31.
- (9) G 4940: Seshem-nofer, *tpy hr nswt, sb qd mr, wr md šmcrw*; core type II a, converted into mastaba of type VII a; area, 435.0 sq. m.; prop. 1/1.96; chapel type (4 a), of white limestone; fully decorated; shafts types 3 bf and 3 ar; reserve head, probably intrusive in debris of B; serdab behind south niche.
 (a) 3.75 × 1.22 m.; area, 4.58 sq. m.; prop. 1/3.07; relation, 1/94.97.
 See Fig. 124.
- (10) G 4920: Thenty, *šmr wrty, hrp ch, hry-ššt pr dwt*; core type II a, converted into mastaba of type VII a (poor masonry); area, 280.8 sq. m.; prop. 1/2.05; chapel type (4 a), of nummulitic limestone; fully decorated with small north niche; shaft types 4 b (2) and 6 c (1); serdab behind south niche.
 (a) 2.85 × 1.2 m.; area, 3.42 sq. m.; prop. 1/2.38; relation, 1/82.1; one Cheops estate; chapel probably later than Dyn. IV.
- (11) G 5080: Seshem-nofer, *imy-r šš r nswt*, son of *rh nswt* Merytyetes; core type II a, cased with white limestone converted into mastaba of type VII x; area, 364.32 sq. m.; prop. 1/1.91;

chapel type (4), of white limestone; fully decorated; shaft types 3 af, 4 b (2); serdab complex built south of mastaba.

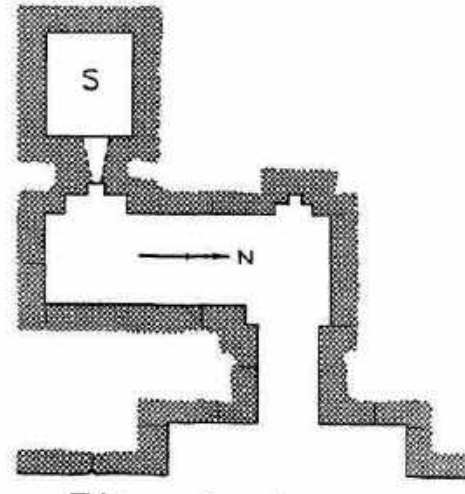
(a) 3.76×1.52 m.; area, 5.71 sq. m.; prop. 1/2.47; relation, 1/63.8; sealing of Shepseskaf in chief shaft.

- (12) G 5150: 'Prince' Seshat-hetep; *imy-rs krt nbt nswt, hrp ch*; Junker, *Giza*, II, pp. 172-194; LG 36; core type II a, converted into mastaba of type VII a; area, 325.04 sq. m.; prop. 1/1.75; chapel type (4 a), of nummulitic limestone; fully decorated; two chief shafts, types 3 (?), 3 ar, and three other shafts; two small serdabs, one behind each niche.

(a) 5.0×1.57 m.; area, 7.85 sq. m.; prop. 1/3.18; relation, 1/41.4; three estate names of Cheops.



Plan
Fig. 123. G 2150



Plan
Fig. 124. G 4940

- (13) G 5170: 'Prince' Seshem-nofer, *ss nswt n ht-f* (once), *hty-r, tyty sb tity, hry sst n pr dwt, imy-rs ss r nswt, sb rd-mr*; excavated by Steindorff, referred to by Junker, *Giza*, II, pp. 31, 33, 39; core type II a, converted into mastaba of type VII a; area, 307.2 sq. m.; prop. 1/1.87; chapel type (4 a), of nummulitic limestone (?); one shaft south of middle; complex serdab constructed south of mastaba as G 5080.

(a) 3.64×1.43 m.; area, 4.73 sq. m.; prop. 1/2.54; relation, 1/64.9; estates of Cheops, Chephren, Menkauwra, Weserkaf, and Sahura.

- (14) G 4930: core type II a, cased with c.b. as mastaba of type VII e (2); with inserted stone chapel; area, 342.1 sq. m.; prop. 1/2.15; chapel type (4 a), of white limestone, in SE corner, destroyed to foundations; with exterior vestibule room, both destroyed to foundations; in the place of the north subsidiary niche, a small one-niched offering-room of c.b.

(a) 3.07×0.95 m.; area, 2.82 sq. m.; prop. 1/3.23; relation 1/121.31.

- (15) G 5030: core type II a, converted into mastaba type VII c (zu-casing); area, 306.27 sq. m.; prop. 1/2.11; chapel of type (4 a), of nummulitic limestone, decoration unfinished and partly destroyed; two shafts, types 4 b (2) and 6 b (2); small serdab behind south niche.

(a) 3.3×1.05 m.; area, 3.46 sq. m.; prop. 1/3.15; relation, 1/88.15.

- (16) G 4520: Khufuw-ankh, *rh nswt, hnty s pr rs, hsw*; core type IV i with interior chapel of type (4 b) intruded and exterior stone chapel; mastaba type VII; area, 225.72 sq. m.; prop. 1/2.3; chapel of type (4 a) with decorated monolithic stela presented by Weserkaf; open shaft with

three chambers, types 5 a (1), 5 b (1), and 6 c.; small serdab in west wall of room (a) between two niches.

(a) 2.65×1.3 m.; area, 3.44 sq. m.; prop. $1/2.38$; relation, $1/74.33$; in shaft sealing of Weserkaf.

One other chapel is to be added which closely resembled the decorated chapels Nos. 6–13, but the mastaba, instead of enclosing an old core, was built around the southern end of such a core:

(17) G 2100 I-ann.: 'Prince' Mer-ib.

Mastaba type VII a (1), built around south end of core of type II a; area, 308.0 sq. m.; prop. $1/1.57$; chapel type (4 a), of nummulitic limestone; fully decorated; two shafts of types 3 bf and 3 cr; no serdab.

(a) 3.85×1.56 m.; area, 6.0 sq. m.; prop. $1/2.46$; relation, $1/51.33$; by position and inscription Mer-ib was certainly a grandson of Cheops.

The chapels (6)–(13) and (17), attached to old nucleus cores, are well-built, fully decorated chapels and form a group with related features in the decorations (see next section). One at least was the tomb of a grandson of Cheops (No. 17, Mer-ib). The chief burial in No. 11 was made in the reign of Shepseskaf. Three others bear the title of 'prince', No. 7 (Kaninesuwt), No. 12 (Seshat-hetep), and No. 13 (Seshemnofer).

In addition to the mastabas with chapels of type (4 a) attached to old cores, the following mastabas on independent sites outside the nucleus cemeteries also had chapels of type (4 a) with subsidiary north niches:

(18) G 2220: on independent site east of G 2210 which encloses one of the five initial cores in Cem. G 2100; no name preserved but probably descendant of G 2210 and G 2130; mastaba type VII a with white casing begun; area, 1264.8 sq. m.; prop. $1/3.03$; chapel of type (4 a), of white limestone; decoration unfinished; two shafts of types 4 b (2) and 4 a (1); no serdab.

(a) 6.0×1.6 m.; area, 9.6 sq. m.; prop. $1/3.75$; relation, $1/131.75$.

(19) G 1020: Mes-sa and his son (?) Hetepi; mastaba type VII b (2); area, 325.6 sq. m.; prop. $1/1.49$; chapel type (4 a), undecorated, of nummulitic limestone; shafts, four in N–S axis, types 3 bf, 5 a (2), 5 a (2), and 7 x; serdab behind south niche; intact with two limestone statuettes.

(a) 3.25×1.15 m.; area, 3.73 sq. m.; prop. $1/2.82$; relation, $1/87.29$.

(20) G 1452+1453: Zed-wa, *rh nswt*, *hm-ntr Hwfw*, *shd wrb*, twin-mastaba of type VII e (3), built against the south end of G 1451; area, 182.77 sq. m.; prop. $1/2.26$; with two interior chapels of type (4 a) side by side; in south end of mastaba; with stone-framed niches; shafts, seven in G 1452 and two in G 1453; no serdab.

N. (a) 2.7×1.25 m.; area, 3.37 sq. m.; prop. $1/2.16$.

S. (a) 3.75×1.25 m.; area, 4.68 sq. m.; prop. $1/3.0$.

Relation of two chapels to mastaba, $1/22.7$.

(21) G 1454+1455: no name; twin-mastaba like No. 20; mastaba type VII e (3); area, 30.8 sq. m.; prop. $1/0.39$; two chapels of type (4 a); no inscriptions; two shafts, types 5 b (1) and 6 b (2); north chapel converted into serdab; floor of chapel about a metre above floor of passage.

N. (a) 1.7×0.9 m.; area, 1.53 sq. m.; prop. $1/1.88$.

S. (a) 1.9×0.85 m.; area, 1.61 sq. m.; prop. $1/2.35$.

Total area, N (a) + S (a), 3.14 sq. m.; relation, $1/9.8$.

- (22) G 2041: Sennuwka = Keki, *rh nswt, imy-rs Hwfw-ht* (city), *ss r n nswt, hrp web nswt*.

Mastaba type VII a (1), poor masonry; area, 94.71 sq. m.; prop. 1/1.59; chapel type (4 a), of white limestone; west wall decorated, not quite finished; shafts, types 4 a (4) and 6 a (2); no serdab.

(a) 3.0 × 1.2 m.; area, 3.6 sq. m.; prop. 1/2.5; relation, 1/26.3; the owner is probably the same as the fourth scribe, Sennuwka, on the north door-jamb of 2110, Nofer, which is immediately east of G 2041.

- (23) LG 20: Persen; *rh nswt, wr md smcw, hrp hm-ntr, ss r nswt*.

Mastaba type VII a; area, 84.5 sq. m.; prop. 1/2.0; chapel type (4 a), of white limestone, fully decorated; shafts unexcavated; small serdab behind north wall of offering-room, connected by slot.

(a) 2.3 × 0.7 m.; area, 1.61 sq. m.; prop. 1/3.28; relation, 1/52.42.

- (24) G I S, No. 4; LG 52: Ni-ankh-ra; Junker.

Mastaba type VII a; chapel type (4 a), of nummulitic limestone; partly decorated.

(a) 3.0 × 1.0 m.; area, 3.0 sq. m.; prop. 1/3.0.

- (25) Selim Hassan, *Giza*, I, p. 91: Imby, *rh nswt, imy-rs hm-k3 mwt nswt, imy-rs n st hnty-s pr r, shd hnty-s pr r*; mastaba partly rock-cut and partly constructed of nummulitic limestone; chapel of type (4 a) with subsidiary north niche in exterior corridor entered from north by a bent vestibule corridor; serdab behind south niche with statuettes; chief shaft of type 4 a (1), and five other shafts.

(a) c. 2.5 × 0.95 m.; area, 2.38 sq. m.; prop. 1/2.63.

The block of decorated chapels (Nos. 6-13) in large mastabas enclosing old cores of the nucleus cemeteries, and the Cem. en Échelon, were succeeded in the large mastabas of their descendants by chapels of type (4 b) without large subsidiary north niche. The last of these, the tomb of Rawer II (5470), was used in the reign of Isesy and was probably constructed shortly before that reign. In the period of Neferirkara it is to be presumed that chapels of type (4 a) might occur in isolated mastabas. In the great complex of Shepseskaf-ankh (G 6040-6010) two such chapels occur, one in the original nucleus mastaba G 6040 and the second in the fourth nucleus, G 6010.

- (26) G 6040: Shepseskaf-ankh, *imy-rs pr*.

Nucleus mastaba of type VII a (1); area, 150.92 sq. m.; prop. 1/1.57; chapel type (4 a), of nummulitic limestone; unfinished decoration; converted later into a serdab, when the additions on the east were built.

(a) 2.70 × 1.10 m.; area, 2.97 sq. m.; prop. 1/2.45; relation, 1/50.81; probably built in the reign of Neferirkara.

The following two nucleus mastabas, G 6030 and G 6020, were two-niched nummulitic mastabas of type IX a (1) with exterior stone chapels. Finally the fourth of the nucleus mastabas was constructed with a chapel of type (4 a), probably in imitation of 6040.

- (27) G 6010; LG 15: Ptah-nefer-bauw, *rh nswt, imy-rs ht-rt, hm ntr Hwfw, hm ntr Shwrc, hm-ntr Nfrirkrc, hm ntr Nwsrrc, web nswt*.

Mastaba type VII a (1); area, 142.76 sq. m.; prop. 1/1.93; chapel type (4 a); decorated with complex exterior chapel.

(a) 3.58 × 1.63 m.; area, 5.83 sq. m.; prop. 1/2.19, with two niches painted on west wall; relation, 1/24.48; probably made in the reign of Neueserra.

Another chapel of type (4 a) was found in the nucleus structure of a composite mastaba with a complex

chapel, G 2184. The nucleus mastaba was on an independent site and was probably from the early part of Dyn. V, but the mastaba was enlarged and finally finished in the latter part of Dyn. V.

- (28) G 2184: Akhet-mery-nesuwt and his father Kanofer; nucleus mastaba of type VII b (2) (small steps); area, 49.0 sq. m.; prop. 1/1.96; chapel type (4 a), with unfinished decoration in the name of Akhet-mery-nesuwt, with subsidiary north niche in the name of the father, Kanofer; a second small façade niche in the name of the mother inscribed with the name of the wife of Kanofer; eight shafts; serdab perhaps designed north of chapel (a) but used for later corridor of type (5 a) (room b).

(a) 1.9 × 0.88 m.; area, 1.67 sq. m.; prop. 1/2.15; relation, 1/29.34.

There are a number of two-niched chapels which have no subsidiary north niche in the façade of the mastaba and are labelled chapel type (4 b).

There are also at least two chapels with subsidiary north niches which have no niches in the west wall of the offering-room. One, a stone chapel, was left unfinished and perhaps designed for one or two niches. The other was a c.b. chapel and may have had painted niches which have weathered away:

- (29) G 1206: Ikhet-neb, *rh nswt, shd wcb*, and his son Sennuw, *rh nswt, shd wcb, shm s, rd mr grgt, hm ntr Hwfw*. Mastaba type VI or VII b (old stepped drab masonry); built against east face of old nucleus core 1207; area, 64.0 sq. m.; prop. 1/4.0; chapel type (3) or (4 a), without niche or decoration (a few graffiti); converted later into a serdab; six shafts, chief shaft of type 5 a (1).

(a) 2.4 × 0.95 m.; area, 2.28 sq. m.; prop. 1/2.53; relation 1/28.07; doorway to (a) in south end of east wall; subsidiary north niche, and a small simple niche cut north of it.

- (30) G 3030: Fisher; mastaba type VI or VII e (3); area, 285.2 sq. m.; prop. 1/2.15; chapel type (3) or (4), without niche or decoration preserved; subsidiary north niche but with another pair of niches to the north served by an exterior c.b. room; three shafts, types 4 a (2) and 6 b (2); serdab behind west wall of offering-room.

(a) 2.9 × 1.1 m.; area, 3.2 sq. m.; prop. 1/2.64; relation, 1/87.75; exterior c.b. chapel; mastaba practically a twin-mastaba.

(c) *Other two-niched chapels.*

In addition to the early chapels of the pyramid G I-b, Prince Hemyuwnuw, and the chapels of type (4 a), other two-niched chapels occur of types (4 b), (5), (6), (8), and (9). The two-niched chapels of types (8) and (9) represent in fact the survival of the old two-niched mastaba of Dyn. III. There is only one chapel of type (6 b) which appears to have any importance for the development of the two-niched offering-room.

- (31) G 5110: Prince Duwanera, younger brother of Prince Nebemakhet and son of Chephren; mastaba type VIII x, with massive core cased with white limestone; area, 1261.75 sq. m.; prop. 1/2.1; chapel type (6 b), of white limestone; decoration not finished; offering-room, two-niched, in medial E-W axis entered from east, with subsidiary south niche now destroyed; one shaft of type 3 af; serdab behind south wall of offering-room.

(a) 7.85 × 1.75 m.; area, 13.73 sq. m.; prop. 1/4.18; relation, 1/91.89; probably made in the reign of Mycerinus. Fig. 152.

The chapel type (4 a) degenerated in Dyn. V to type (4 b). The chapels of this type and the other two-niched chapels of types (5), (8), and (9) were all later in date than those of type (4 a) and will be considered later.

(5) *Rock-cut Chapels at Giza*

The rock-cut chapels in the old Cheops-Chephren quarry were certainly not excavated during the taking of the stone for the Chephren pyramid. But the excavation of the earliest chapels south of the Chephren quarry may have been in progress while the quarrying in the southern part of the area was still continuing during the reign of Mycerinus. I conclude that the tombs of the family of Chephren made in the terraces of this quarry began in the reign of Mycerinus. The quarry cemetery certainly continued in use until Dyn. VI. Previous to the excavation of the first rock-cut tombs, the mastabas in the rest of the necropolis had contained L-shaped chapels in which the predominating type was the one-niched type (3). Then, about the end of the reign of Mycerinus or the beginning of the reign of Shepseskaf, the two-niched L-shaped chapel (type 4) became predominant and continued until about the end of the reign of Neferirkara of Dyn. V. The rock-cut tombs cover this period of transition from the chapels of type (3) to those of type (4). In passing, it may be noted that the quarry tombs also cover the period of the mastaba chapels of types (5)–(8). As a large number of the tombs of the Quarry Cemetery belonged to queens and royal children of the family of Chephren, the forms used in them may be presumed to have affected the forms used in the mastaba chapels made after their time.

The rock-cut tombs included offering-chapel and burial-places as usual in all Egyptian tombs, but these were united in a manner which differed from the arrangement of chapel and shafts in the mastaba. A doorway was cut in the face of one of the old quarry terraces (rock-scarp), and inside this the room or rooms of the chapel were excavated. The shafts were then excavated either in the floor of the main room or occasionally in a special small chamber, called hereafter the 'shaft chamber'. The rock-scarp or the face of the terrace was treated as the face of the mastaba and in some cases cut to the mastaba slope or even cased with stone like a core-mastaba. A few examples occur in which a mastaba was actually constructed on the top of the scarp above the doorway to the chapel (tomb of Khuwnera). In Dyn. VI at Naga-ed-Dêr in Cem. N 100 and elsewhere, the cemetery was made on a steep rock slope or in the vertical rock-scarp, which presented the conditions of the Giza quarries. In these Naga-ed-Dêr cemeteries the normal form of the rock tomb consisted of a vestibule (or portico) cut into the slope, a large square chamber excavated in the rock from a doorway in the middle of the back wall of the vestibule, and burial-shafts (vertical or sloping) opening in the main room. Examples occurred with two or more chambers but these were unusual. Most of these rock-cut tombs at Naga-ed-Dêr had some sort of imitation of a mastaba, usually a c.b. construction founded on the rock above the back wall of the vestibule, but such structures were exposed to denudation so that the examples preserved represented probably only a small proportion of those originally executed. This type of rock-cut tomb occurs widely in the period from Dyn. VI to X, and was the normal type of the Middle Kingdom.

The Giza quarries were left by the quarrymen with irregular terraces on two or three sides and with an irregular floor broken by ridges and knolls of rock. The rock-scarps of the terraces were used for the rock-cut tombs which were, as I have said, sometimes cased on the face of the rock-scarp as if it had been a mastaba-core and sometimes extended by masonry containing additional apartments belonging to the chapel. On the floor of the quarry the tombs were in some cases built mastabas, and in others partly built and partly cut in the rock. In the latter the chapel was also either cut in the rock or partly cut and partly built. In dealing with these quarry tombs I have classed as rock-cut tombs only those of which the chapels have been wholly or partly excavated in the rock.

I have no doubt that the rock-cut tombs of Giza are the earliest ever excavated in Egypt. These were made at the place where in Dyn. IV the whole technique of quarrying and stone masonry was

largely practised and a great force of workmen was available trained in the necessary technical operations. A few rock-tombs in Middle Egypt have been assigned to Dyn. IV, but an examination of the individual tombs fails to confirm this dating.

The complete history of the Cheops-Chephren Quarry Cemetery cannot be drawn up until Professor Selim Bey Hassan has completed his excavations. Nevertheless, it is already clear that the earlier tombs were those nearest the Chephren Causeway. These include at present the tombs of Queen Persen(et) in the highest terrace, the tomb of Queen Rekhmet-ra lower down, and the tomb of Queen Khamerernebtj I still lower. All three were probably queens of Chephren. Beside and near them are the tombs of Prince Nekauwra (by the estate names a son of Chephren), Prince Sekhemkara (son of Chephren by inscription and estate names; lived until the reign of Sahura), Prince Nebemakhet (son of Chephren and Meresankh III).

Each of the rock-cut tombs at Giza appears to have been designed to suit the form of the rock in which it was cut but affected by the means and desires of the owner. No two are exactly alike, and it is difficult to find common features in the relatively few examples of tombs, each of which was to a certain extent *sui generis*. Taking the large tombs, two distinctive features are observable, however, which separate these tombs into two groups. One of these, apparently used in the earlier quarry tombs, is the two-room arrangement consisting of a N-S room (called room a) and an E-W room beside it, usually on the north. The other arrangement has a cruciform appearance, with a series of chambers set in an E-W direction and connected by doorways or passages in the E-W axis of the chapel. The two forms are very distinctive in appearance, although the examples are few. It is to be noted that a pillared portico which occurs in both the arrangements mentioned above does not in itself present a feature which can be used in the main classification, as in each case it is merely an elaboration of the type in which it is used.

Each of the two main types thus set forth has examples which are degenerations or small imitations of these two. The two-room type presents apparently only a single room in the tombs of LG 87 (Nekauwra) and LG 89 (Sekhemkara), as the two rooms are marked only by a difference in the height of the ceiling. In G 7530+40 (Meresankh III) and MQ 1 (Khuwnera) the two have become one large hall with one niche (Meresankh) and a pillared alcove (both tombs) in the west wall of the hall. The tombs with a single hall approximate in appearance to corridor chapels, and in particular to those with alcoves. The largest examples of the cruciform chapels present a series of N-S corridors with openings in the middle of the long sides.

In addition to the two chief types of rock-cut chapels and their degenerate forms, two distinct types of smaller chapels occur, the corridor chapel and the square room chapel. To these four types is to be added a fifth derived from the L-shaped chapel, and this occurs not only separately but also as the inner offering-room in chapels with more than one room.

On the basis of this exposition I classify the rock-cut tombs at Giza as below. The orientations of the rock-cut chapels are difficult to state owing to the turning and twisting of the rock-scarp. I have therefore taken the wall containing the offering-niche or -niches as the west wall of the chapel and described the axis as N-S when parallel to this wall or E-W when at right angles to it. As a result the directions named are not always the astronomical directions but always the functional directions of the parts of the chapel.

Type RC (i): two-room arrangement with N-S hall (room a) and E-W offering-room (room b), with or without pillared alcove or additional rooms; including degenerate examples of the form.

Type RC (i a): characteristic two-room arrangement without pillared alcove.

Example:

- (1) LG 87: Prince Nekauwra, son of Chephren and Queen Persen(et); entered from east into room (a); three small rooms behind west wall of a (c, d, e) and another south of a (y); doorway in south wall of a leading to (y); in west wall of a, on south, a compound niche, and on north, a doorway leading to small rooms c, d and thence to LG 88; small room (e) opens in south wall of d; in west wall of b, two compound niches; entrance to sloping-passage burial-place in east side of b (also entered by vertical shaft in recess in NW corner); decorated.

Measurements and areas:

- (a) 5.0×3.7 m.; area, 18.5 sq. m.
 (b) 5.1×5.75 m.; area, 29.32 sq. m.; prop. 1/0.88.
 (y) 2.75×4.25 m.; area, 11.69 sq. m.
 (c) 4.05×1.8 m.; area, 7.29 sq. m.
 (d) 2.25×3.0 m.; area, 6.75 sq. m.
 (e) 1.3×2.0 m.; area, 2.6 sq. m.
 Total rooms, a-b: 47.82 sq. m.
 Total of decorated rooms, a, b, y: 59.51 sq. m.
 Total of all rooms, a-e: 76.15 sq. m.

Made about the same time as LG 88, Persen(et). See Fig. 125.

Type RC (i b): characteristic two-room arrangement with pillared alcove in west wall of (a) with or without chamber in west wall of alcove; with or without other small rooms.

Examples:

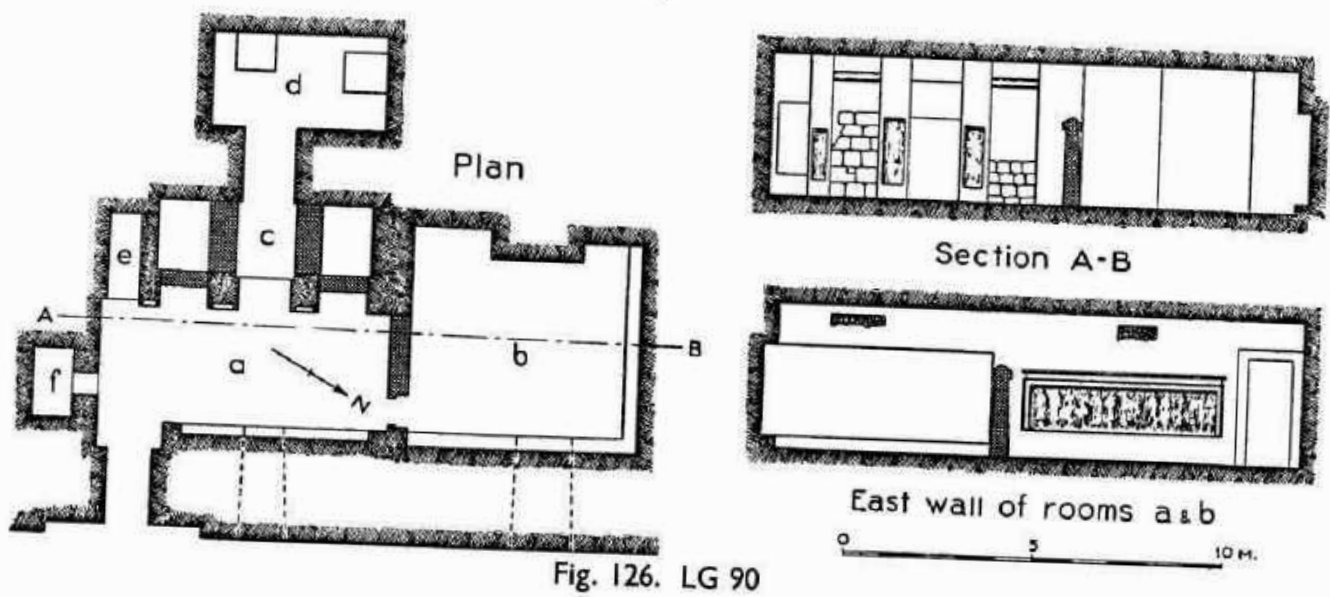
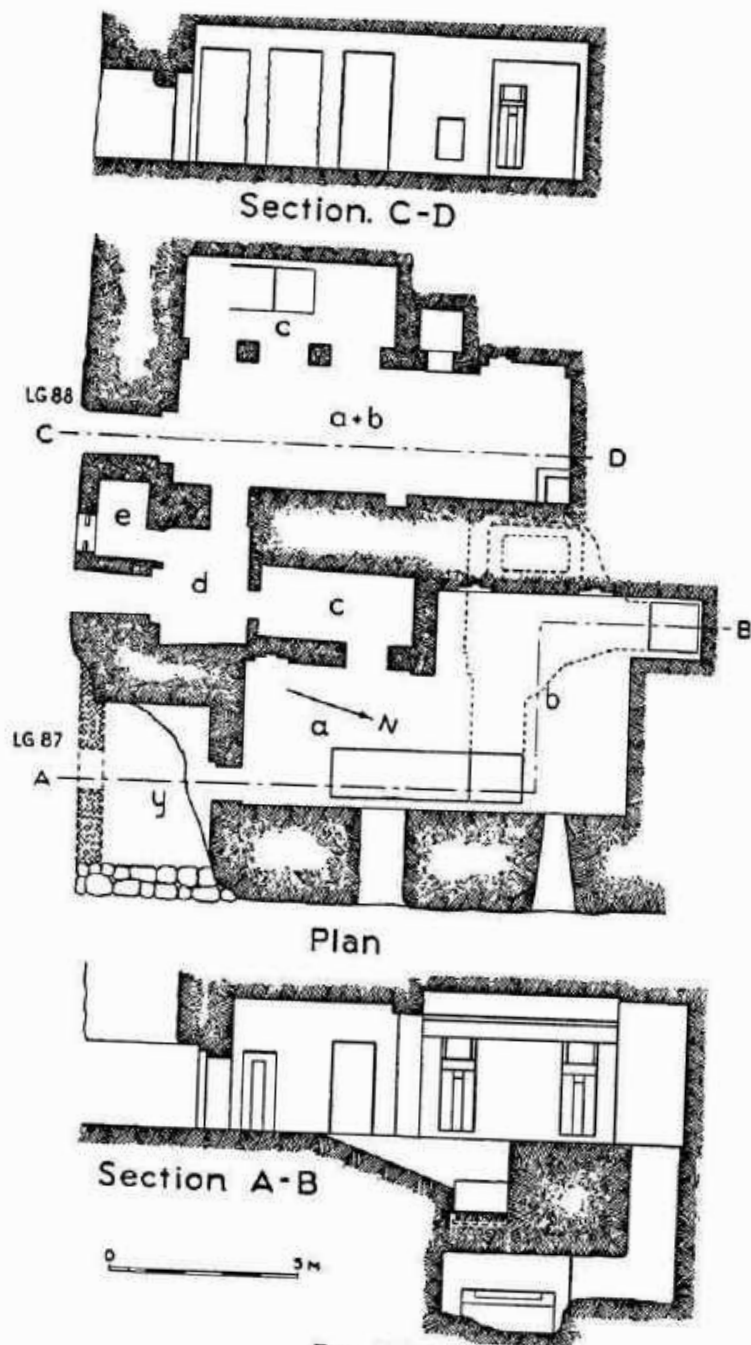
- (2) LG 90: Debehen; tomb dated to Mycerinus by inscription; shaft chamber with two shafts opening in west wall of alcove (asymmetrical); two small rooms opening from (a), one south of alcove and the other in south wall; entrance from east into (a) at south end of east wall; doorway to (b) at east end of north wall; decorated masonry screen between (a) and (b); decorated walls, row of thirteen statues in niche in east wall; three statues cut in niches of east faces of three pillars of portico; two niches with palace-façade panelling on west wall of (b).

Measurements and areas:

- (a) 7.6×3.0 m.; area, 22.8 sq. m.
 (b) 5.65×4.6 m.; area, 25.99 sq. m.; prop. 1/1.23.
 (c) 5.6×1.8 m.; area, 10.08 sq. m.; pillared alcove.
 (d) shaft-room, 4.6×2.5 m.; area, 11.5 sq. m.
 (e) serdab (?), 0.8×2.25 m.; area, 1.8 sq. m.
 (f) south of a, 1.0×1.8 m.; area, 1.8 sq. m.
 Total area, rooms a and b: 49.79 sq. m.
 Total area of c-f: 25.18 sq. m.
 Total area, a-f: 73.97 sq. m.

See Fig. 126.

- (3) LG 92: Prince Min-yuwen; relationship indeterminable; shaft-chamber west of alcove, with two shafts; (e) on south separated from (a) by a screen wall; (b) on north separated from (a) by a screen wall; single offering-niche in west wall of (b); palace-façade panelling in west wall of alcove with entrance to shaft-chamber opening through middle recess; the middle part lies in symmetrical E-W line and presents the cruciform arrangement (see type RC (ii)), below.



Measurements and areas:

- (a) 8.5×2.85 m.; area, 24.22 sq. m.
 (b) divided in two by pilasters:
 (b 1) 2.6×2.85 m.; area, 7.41 sq. m.
 (b 2) 2.6×1.75 m.; area, 4.55 sq. m.
 Total area of b, 11.96 sq. m.
 (c) pillared portico, 5.4×1.3 m.; area, 7.02 sq. m.
 (d) shaft-room, 4.0×2.0 m.; area, 8.0 sq. m.

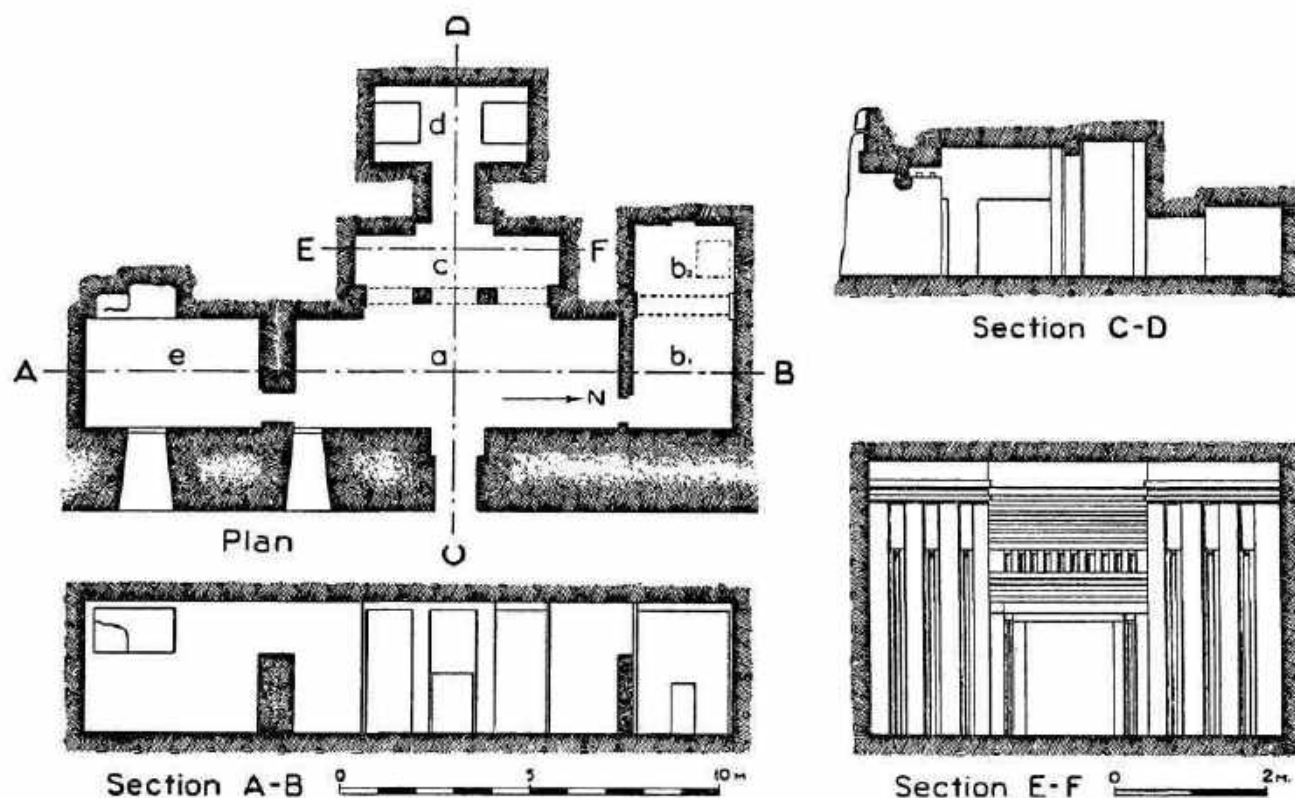


Fig. 127. LG 92

- (e) south of a, 4.55×2.85 m.; area, 12.96 sq. m.
 Total area of a and b: 36.18 sq. m.
 Total area, c, d, e: 27.98 sq. m.
 Total area, a-e: 64.16 sq. m.
 See Fig. 127.

Type RC (i c): two rooms of same width, with room (b) marked off by higher ceiling; offering-niche or niches in west wall of (b); with or without other rooms.

Examples:

- (4) LG 89: Prince Sekhemkara, son of Chephren; entrance from south; west wall of (a) decorated; two offering-niches in west wall of (a); shaft-chamber opening in east end of north wall of (b), with one shaft; shaft-room cut later (Sahura?).

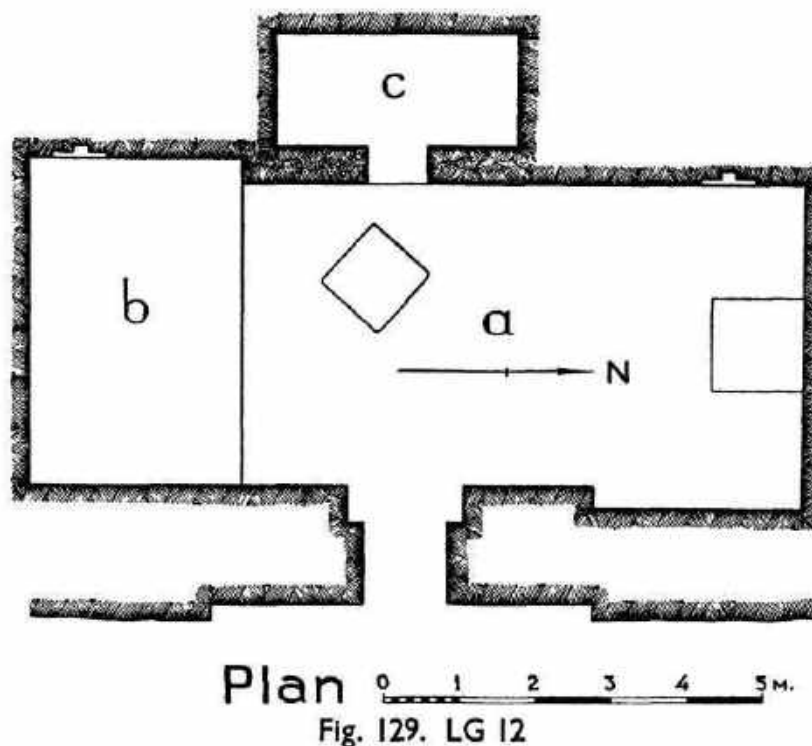
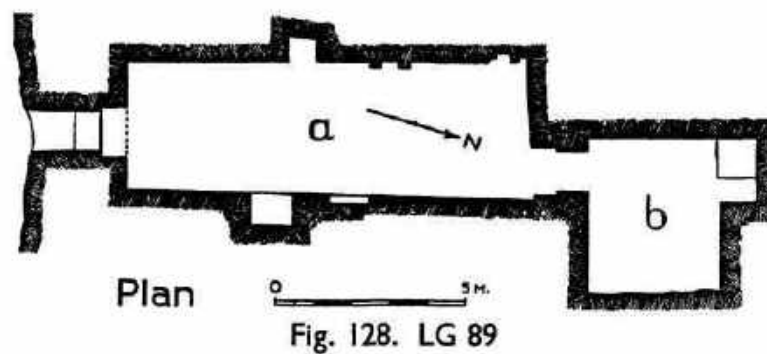
Measurements and areas:

- (a) 10.52×3.45 m.; area, 36.29 sq. m.
 (b) 3.5×4.02 m.; area, 14.07 sq. m.; prop. 1/0.87.

Total area, a, b: 50.36 sq. m.

See Fig. 128.

- (5) LG 12: Prince Nebemakhet, son of Chephren, entered by doorway in east wall near middle; long hall divided by elevation of roof into two parts (a on north and b on south), (b) with roof carved as logs of wood and niche in west wall; room (a) has doorway to (c) on south and niche on north; symmetrical appearance probably accidental.



Measurements and areas:

(a) 7.65×3.0 m.; area, 22.95 sq. m.

(b) 2.3×3.15 m.; area, 7.25 sq. m.; prop. 1/0.73.

(c) 2.0×1.3 m.; area, 2.6 sq. m.

Total area, a, b: 30.2 sq. m.

Sum total: 32.8 sq. m.

See Fig. 129.

- (6) LG 89-x: no name; with entrance from south; long N-S hall (a) with small offering-room (b) north of (a) with two compound niches in west wall; two shaft-rooms opening by doorways in west wall of (a).

Measurements and areas:

- (a) $c. 4.8 \times 3.4$ m.; area, 16.32 sq. m.
 (b) $c. 2.7 \times 3.48$ m.; area, 9.4 sq. m.; prop. 1/0.77.
 (c) N-S shaft-room: 5.63×2.4 m.; area, 13.51 sq. m.
 (d) E-W shaft-room: 2.8×3.7 m.; area, 10.36 sq. m.

Total area, a, b: 25.72 sq. m.

Total area, a-d: 49.59 sq. m.

No decoration on walls.

See Fig. 130.

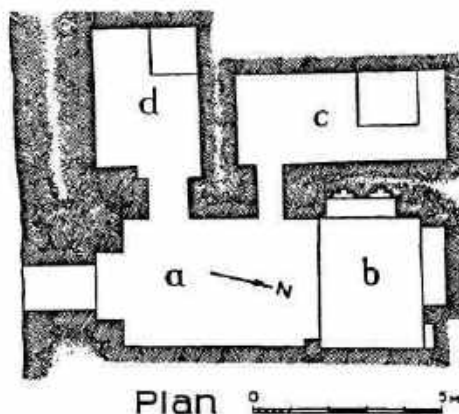


Fig. 130. LG 89-x

Type RC (i d): degenerate form of RC (i b), showing single large hall, with pillared alcove in one end of west wall and a niche or niches in the other end; with or without other rooms.

Examples:

- (7) LG 88: Queen Persen(et), wife of Chephren, mother of Nekauwra; entered by doorway in east wall leading to LG 87, and by doorway in south wall; pillared alcove in south part in west wall; in north part, small serdab in place of south niche and niche on north; entrance to sloping-passage burial-place in floor of alcove.

Measurements and areas:

- (a + b) hall: 10.40×3.30 m.; area, 34.32 sq. m.
 (c) portico: 5.60×2.15 m.; area, 12.04 sq. m.
 Total area: 46.36 sq. m.

See Fig. 125.

- (8) G 7530+7540: Queen Meresankh III, wife of Chephren, mother of Prince Nebemakhet; great N-S hall; entrance from east with doorway near south end of east wall; shallow niche in south end of west wall; pillared alcove in middle of west wall; shallow niche with statues and palace-façade panelling on each side of it; in floor in west alcove, the burial-shaft with granite sarcophagus; in north alcove, ten rock-cut statues of women of the family, in north wall; in south wall of great hall, below the relief, three recesses with figures of the ka-priests.

Measurements and areas:

- (a) 7.0×3.33 m.; area, 23.31 sq. m.; prop. $1/2.1$.
 (b) portico: 5.5×2.4 m.; area, 12.9 sq. m.; prop. $1/2.29$.
 (c) statue room: 2.55×4.65 m.; area, 11.76 sq. m.
 Total, a, b: 36.21 sq. m.

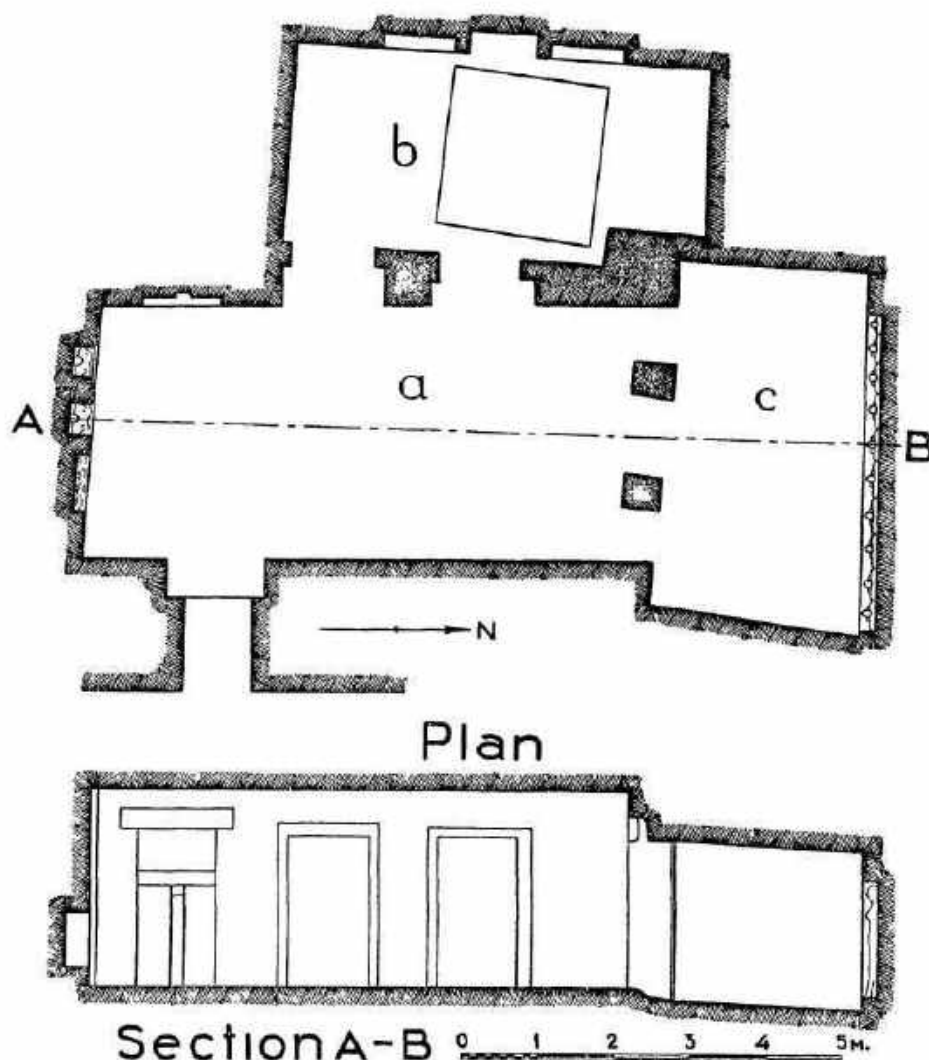


Fig. 131. G 7530

Sum total: 47.97 sq. m.

See Fig. 131.

(9) MQ No. 1: Prince Khwenera, son of Mycerinus and Kha-merer-nebty II.

In the rock-scarp on the western side of Mycerinus Quarry.

Type RC (i d): perhaps intended to be of type RC (ii).

- (a + b) N-S hall: with north end considered as room (b); 10.45×2.70 m.; area, 28.21 sq. m.; entered from east by doorway near middle of east wall.
 (b) Northern end of hall (a); no niche in west wall.
 (c) Pillared portico in west wall of hall (a); separated from (a) by three pillars (four openings); 7.3×2.25 m.; area, 16.42 sq. m.; in west wall a serdab (d) blocked

with masonry containing a serdab slot; with a shallow compound niche on each side of serdab.

- (d) Serdab opening in west wall of (c) with entrance walled up with masonry containing a slot; 1.1×1.1 m.; area, 1.21 sq. m.; squatting statuette of Khuwnera found in sand in hall (a).

Total area, a + b: 28.21 sq. m.

Total area, a, b, c: 44.63 sq. m.

In floor of (a) a shaft; in floor of (b) a sloping passage shaft containing a red granite sarcophagus.

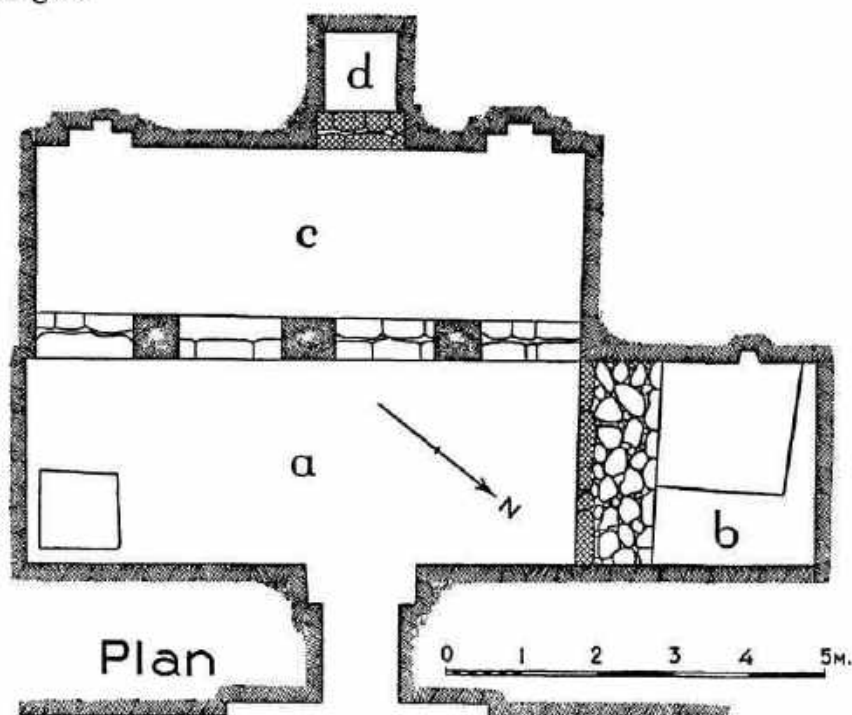


Fig. 132. G MQ I

Decoration on east wall south of doorway and on south wall.

See Fig. 132.

- (10) Selim Hassan: Rekhmet-ra, *msst Hr Stlt sst nswt, wrt hts, hmt nswt*, daughter of Chephren by inscription in tomb of her funerary priest.

Cheops-Chephren Quarry, next to Chephren causeway, east of the tomb of Princess Hemet-ra about quarter-way down from the upper end of the causeway.

Type RC (i d): entered from east by N-S anteroom from which a doorway at the north end opens into an open N-S corridor; the corridor is entered in turn near the north end of the east wall by a long dromos from the east.

- (a) Long N-S hall opening on north to room (b) (a little wider), with portico alcove in west wall: $c. 7.5 \times 2.75$ m.; area, 20.62 sq. m.; entered from east by doorway near north end.
- (b) Offering-room opening at north of (a); 3.45×3.0 m.; area, 10.35 sq. m.; with recess in west wall containing two niches side by side with circular offering-stone in front of each niche; room unfinished.
- (c) Pillared alcove containing burial-shaft of type 9; separated from room (a) by three pillars and pilaster on south wall; 7.45×2.60 m.; area, 19.37 sq. m.; pillars surmounted by

an architrave; in floor opens a sloping-passage tomb of type 9, descending to the north and containing a stone sarcophagus.

(d) Anteroom, N-S room, 3.35×2.0 m.; area, 6.7 sq. m.

Total area, a, b, c: 50.34 sq. m.

Total area, a-d: 57.04 sq. m.

Inscribed in relief on drum of doorway.

See Fig. 133.

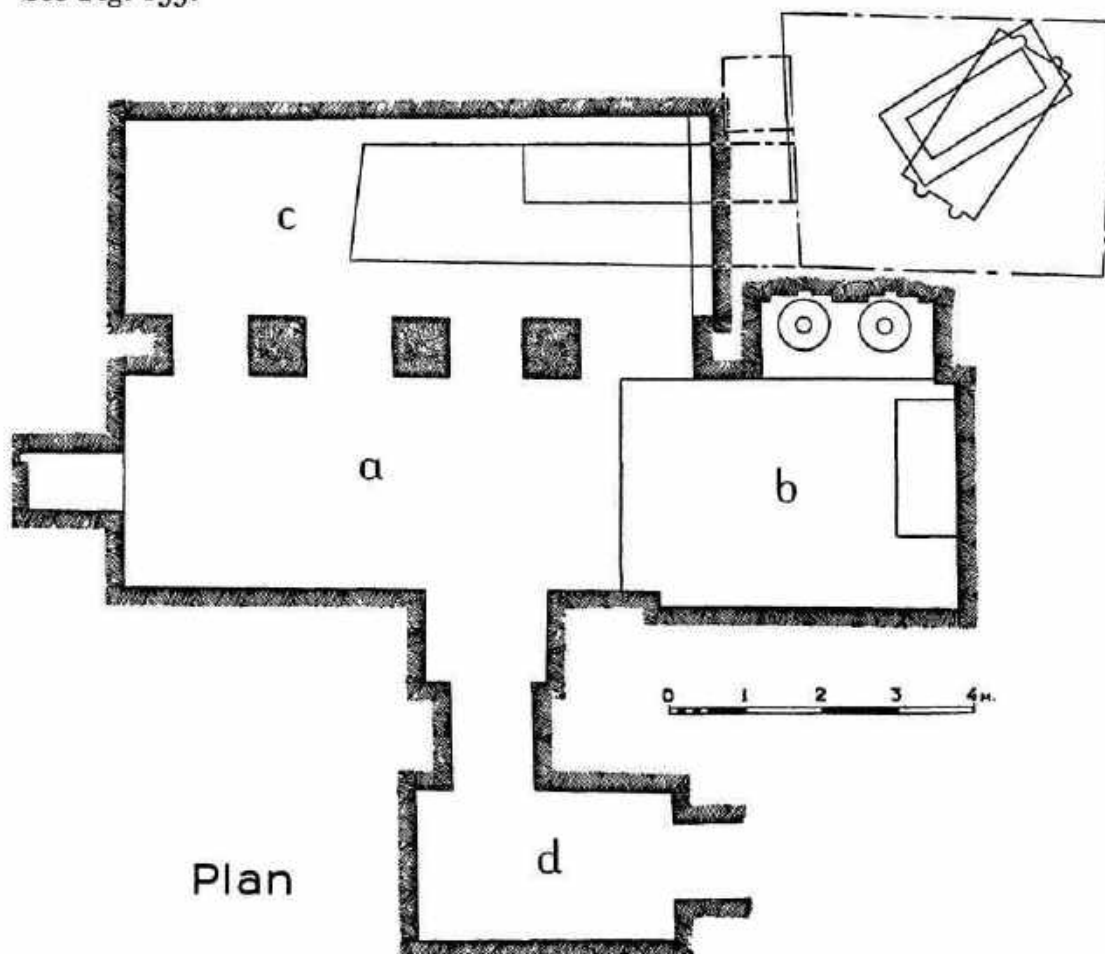


Fig. 133. Queen Rekhmet-ra

(11) Selim Hassan: Hemet-ra, *sst nswt nt ht-f*.

Situated next to south side of Chephren causeway, west of the tomb of Queen Rekhmet-ra.

Type RC (i d): unfinished.

- (a) Long N-S hall with room (b) in north end begun but unfinished; pillared alcove (c) in west wall; 11.0×3.5 m.; area, 38.5 sq. m.; entered from east by doorway south of middle of east wall.
- (b) Cutting begun but not carried out.
- (c) Pillared alcove separated from room (a) by four pillars and two pilasters, surmounted by an architrave; unfinished at north end; 11.0×1.60 m.; area, 17.60 sq. m.; compound niche near north end of west wall; towards south end of west wall (opposite first and second pillars from south) opens the doorway of a chamber (d); in the south wall opens a small chamber (probably a burial-chamber).
- (d) Combined shaft-room and offering-room; 5.65×3.07 m.; area, 17.34 sq. m.; with plain

compound niche at north end of west wall and a recess beside it on south (statue niche or for an inset stela); in middle of floor a large shaft, probably for the princess herself.

(e) A small chamber opening in the south end of room (c); probably a burial-chamber.

Total area, a and c: 56.10 sq. m.

Total area, a, c, d: 73.44 sq. m.

Decorated in relief on front and sides of 4 pillars and on door-jambs.

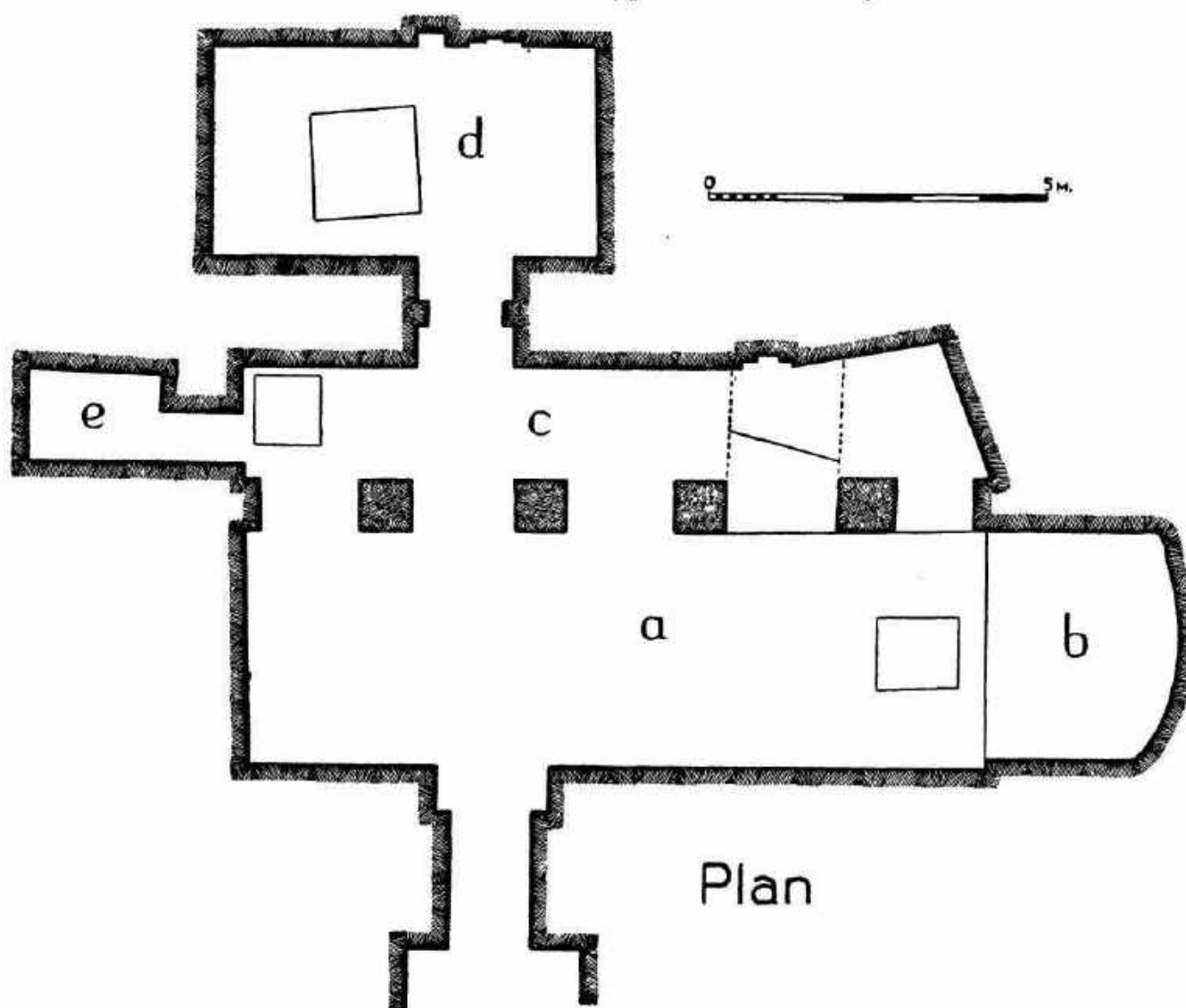


Fig. 134. Princess Hemet-ra

Princess Hemet-ra was married to a man named Shepses-ra from the fact that she had a son named Shepses-ra-she; an indication of the date of Hemet-ra is given by a funerary priest with the name of Shepseskaf-ankh and by the title *hm ntr Htf-rc* of a man named Duwa-ka.

The sons of the princess are given as (1) *rh nswt Špšš-Krw*, (2) *rh nswt 3ht-rc*, (3) *rh nswt Špšš-rc-šr*.

Three other children are daughters, (4) *rht nswt Htp-hrs*, (5) *rht nswt Mrs-ruh*, (6) *rht nswt Hnt-kw-s*.

Four shafts in floor of chapel: A in NW corner of room (a); B, a sloping-passage shaft in room (c) under niche; C in south end of (c); and D in room (d).

See Fig. 134.

- (b) Nearly square offering-room west of north end of room (a), 2.35×2.0 m.; area, 4.7 sq. m.; entered from east from (a) by doorway in south end of east wall; with two plain compound niches in west wall.
- (c) Pillared alcove altered during excavation; apparently originally designed as N-S room separated from (a) by two pillars and two pilasters; before completion the space between the north pillar and the north end was converted into a serdab (d) and rest of the room extended a little to the south separated from (a) by one pillar and one

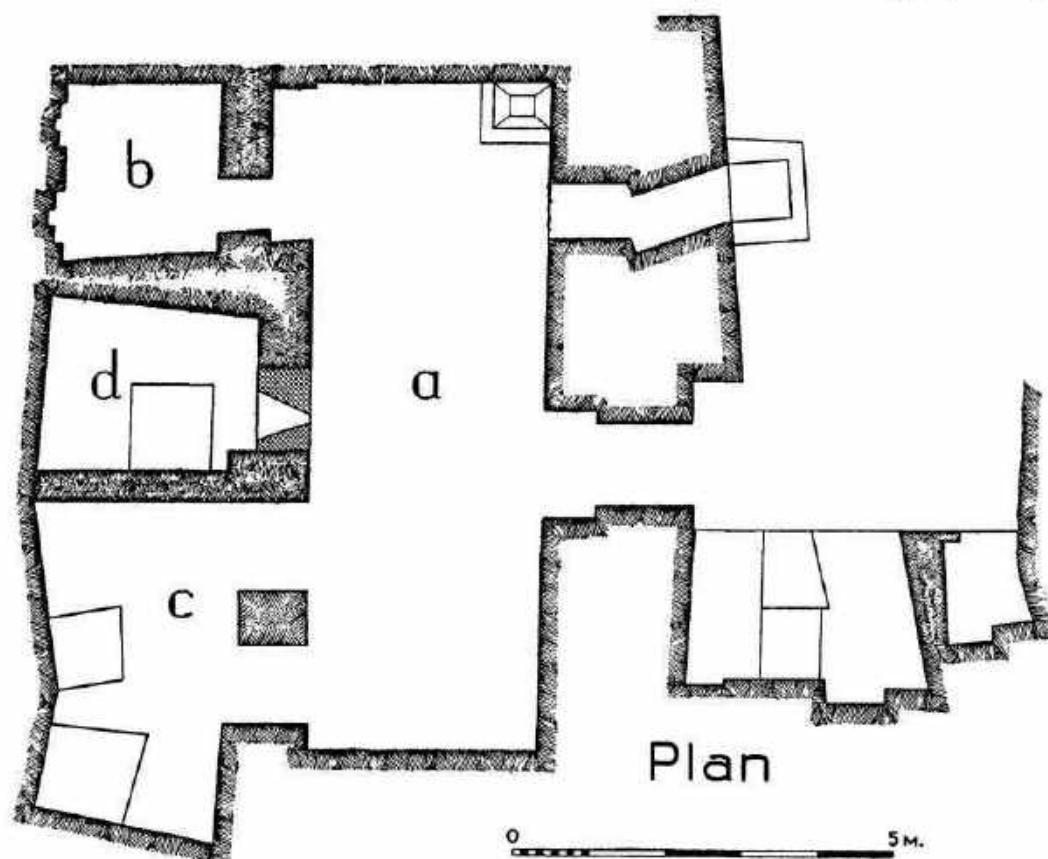


Fig. 136. Prince Ankh-ma-ra

pilaster on the south; this N-S room is now room (c); very irregular in outline; 4.4×2.5 m.; area, 11.0 sq. m.; in this room are two burial-shafts.

- (d) Serdab formed by building with masonry a wall closing the space between the north pillar and the north pilaster and leaving a rock wall between the north pillar and the west wall of c-d; the masonry wall contained a serdab slot; later, apparently, the rock wall was broken down and a shaft constructed in the floor of the old serdab; 2.2×2.85 m.; area, 6.27 sq. m.

Total area, a, b: 31.5 sq. m.

Total area, a-d: 48.67 sq. m.

Inscription on doorway.

See Fig. 136.

Type RC (i f): with the old type reduced to two parallel halls separated by pillars; with or without room opening in west wall of western hall.

Examples:

- (14) Selim Hassan: Prince Neweserra, *ss nswt n ht-f, hry hb hry wdb n it-f smr wrty sdwty bity*.
In upper scarp north of Debehen.

Type RC (i f): two parallel N-S halls, (a) on east and (c) on west.

- (a) Eastern hall entered from east by long doorway near south end of east wall; 10.75×1.75 m.; area, 18.81 sq. m.; separated from hall (c) by two pillars and a pilaster on south (north pilaster probably removed by alterations).
- (c) Eastern hall, separated from (a) by pillars; 10.80×1.75 m.; area, 18.90 sq. m.; with shallow recess in north end of west wall (perhaps to receive monolithic stela) opening to an unfinished cutting north of middle of west wall; large shaft in NW corner.

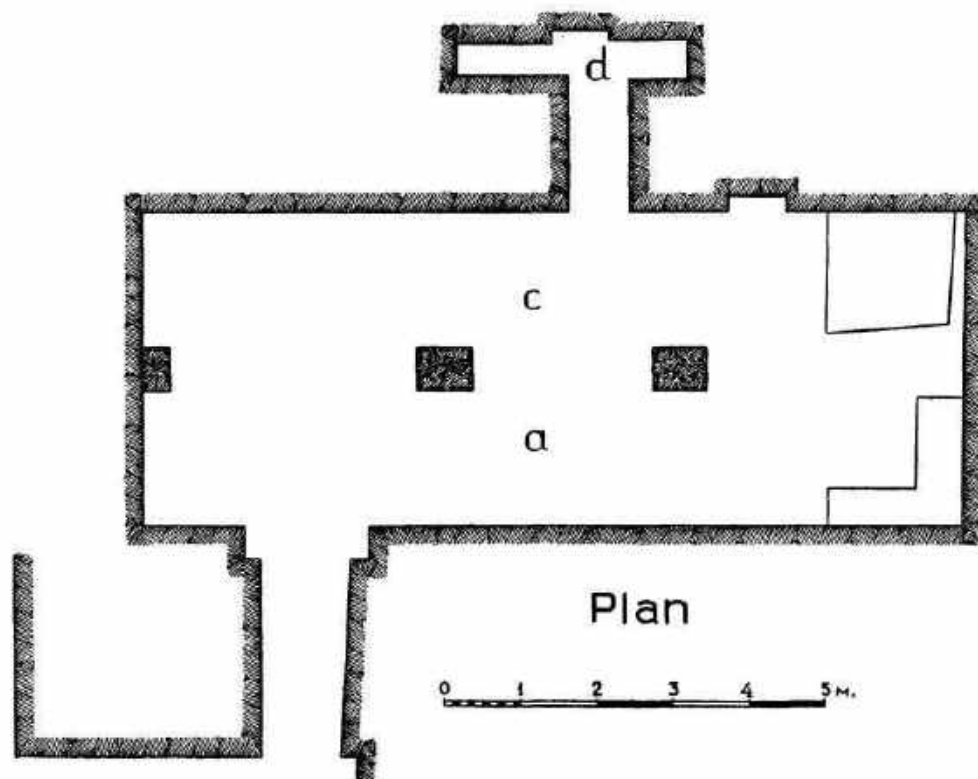


Fig. 137. Prince Neueserra

- (d) Unfinished room opening by passage in west wall of (c); perhaps intended as lateral burial-chamber.

Total area, a-c: 37.71 sq. m.

Figure on south door-jamb and inscription on drum of outer door.

See Fig. 137.

- (15) Selim Hassan: *Zefa-Nesuwat, Excavations at Giza, I*, Fig. 115; in Rawer complex; partly built and partly rock-cut, two large N-S halls separated by two pillars and two pilasters.

- (a) Small E-W room, perhaps offering-room, opening in middle of west wall of hall (b); 1.05×1.7 m.; area, 1.79 sq. m.; entered by doorway in east wall.
- (b) Western N-S hall with (a) in middle of west wall; no niches; 5.2×2.1 m.; area, 10.92 sq. m.
- (c) Eastern N-S hall; 5.6×2.1 m.; area, 11.76 sq. m.; entered from east by doorway in middle of east wall.
- (d) Exterior N-S corridor roofed in middle; 21.3×1.1 m.; area, 23.43 sq. m.; entered from the ends; with two compound niches in west wall of which the south niche is the larger.

Total area, a, b, c: 24.47 sq. m.

Total area, a-d: 47.9 sq. m.

Two shafts in room (b) and four in mastaba.

Not decorated, but inscriptions.

(16) G 7818: upper scarp in Eastern Cliff: no name.

Type RC (i f): two N-S rooms separated by two pillars and two pilasters.

(a) Western room, offering-room: 4.4×1.55 m.; area, 6.82 sq. m.; entered from (b) by three openings; compound niche in middle of west wall; in north end of west wall opening of passage to lateral burial-chambers.

(b) Eastern room: 4.4×1.7 m.; area, 7.48 sq. m.; entered from east by doorway in middle of east wall; opening into (a) by three openings; unfinished cuttings in north and south walls.

Total area, a-b: 14.3 sq. m.

No decorations or inscriptions.

Type RC (ii): the rock-cut cruciform chapel, sometimes partly in rock and partly built of masonry; the characteristic feature is that the doorways and passages connecting the several apartments lie in the E-W medial axis of the tomb.

Type RC (ii a): with N-S offering-room and N-S outer rooms.

Examples:

(1) Selim Hassan: *Excavations at Giza*, I, Fig. 22; Rawer (?); N-S offering-room (r.c.) with niche in middle of west wall; E-W passage opening in embrasure cut in rock; white casing and masonry continue chapel eastwards; elaborate great door embrasure (with serdabs on each side); E-W passage; roofed pillared portico on façade; serdabs enclosed in the masonry; burial-shaft in rock NW of offering-room.

Measurements and areas:

(a) offering-room: 5.35×2.75 m.; area, 14.71 sq. m.; prop. 1/1.95.

(b) embrasure portico: area, 6.68 sq. m.

(c) E-W corridor: 1.0×2.4 m.; area, 2.4 sq. m.

(d) façade portico: 5.4×1.65 m.; area, 8.91 sq. m.

Total area: 32.70 sq. m.

See Fig. 138.

(2) Selim Hassan: *Excavations at Giza*, I, Fig. 152; uninscribed; N-S offering-room with niche in west wall on south and opening of sloping-passage burial-place (type 9) on north; long E-W passage opening in embrasure; façade cased with x-masonry; outside, great open N-S court of c.b. panelled on east and south sides of court; in middle of east wall of court a bent passage leads to the east; in SE corner of court, passage leads east to N-S room leading south to another small chamber.

Measurements and areas:

(a) offering-room: 8.38×3.45 m.; area, 28.91 sq. m.; prop. 1/2.43.

(b) court: 39.6×6.7 m.; area, 265.32 sq. m.

Total area, a and b: 294.23 sq. m.

Type RC (ii b): with N-S offering-room and E-W hall.

(1) LG 71: N-S offering-room with two niches; doorway middle of east wall; E-W hall with entrance in middle in east end; in south wall of hall, pillared alcove with second offering-room opening in middle of south wall of alcove; shaft in second offering-room.

Measurements and areas:

- (a) offering-room: 7.82×2.85 m.; area, 22.29 sq. m.; prop. 1/2.74.
- (b) E-W hall: 3.65×5.8 m.; area, 21.17 sq. m.
- (c) pillared alcove: 3.18×4.5 m.; area, 14.31 sq. m.

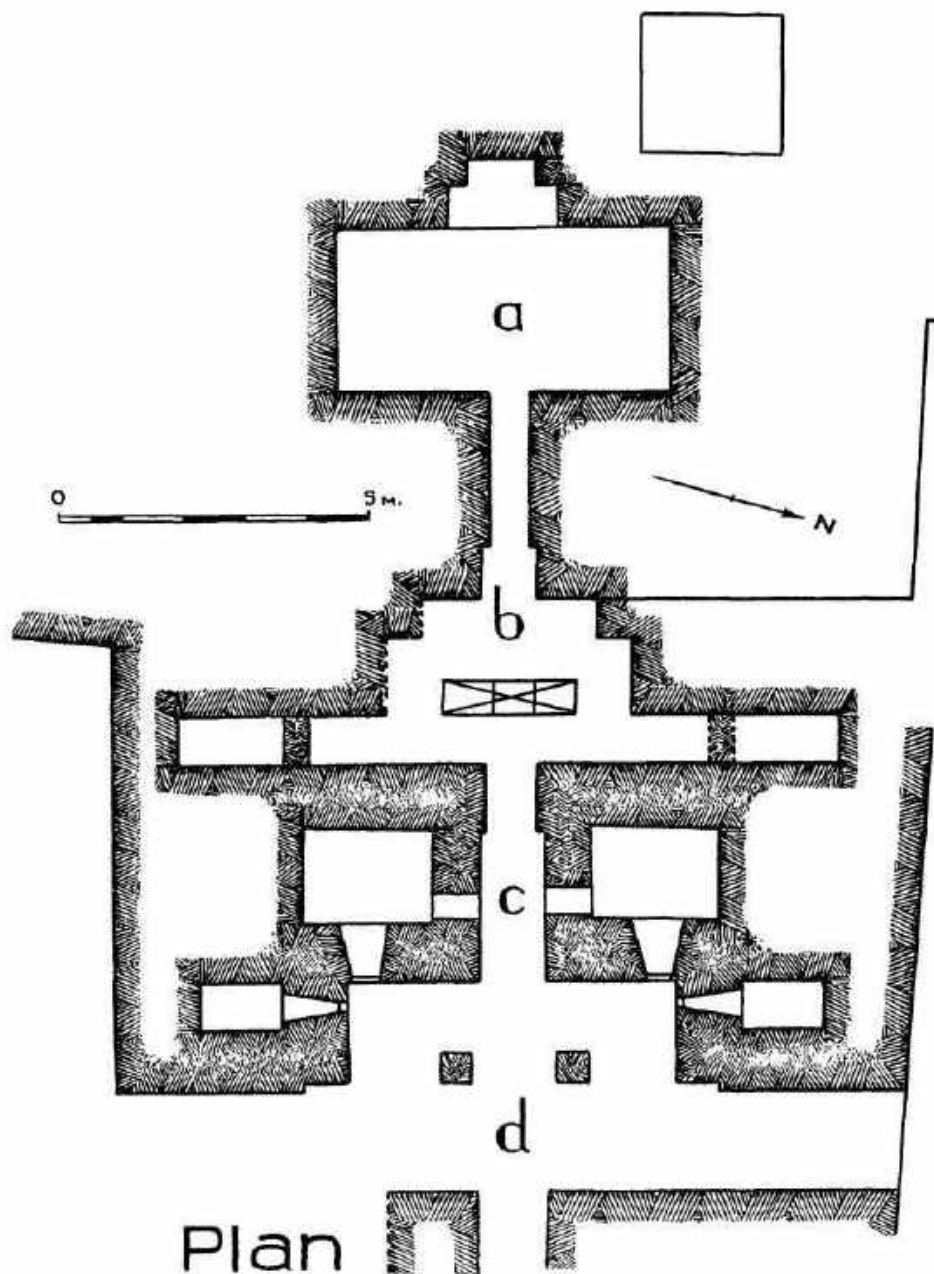


Fig. 138. Rower

(d) southern shaft-room: 5.31×3.1 m.; area, 16.46 sq. m.

Total area, a, b: 43.46 sq. m.

Area, sum total, a-d: 74.23 sq. m.

See Fig. 139.

- (2) LG 76: Khufuw-hetep; N-S offering-room with one niche near north end of west wall and entrance to small N-S room (burial-chamber?) south of niche; long E-W hall with entrance in east end.

Measurements and areas:

- (a) N-S offering-room: 2.25×1.25 m.; area, 2.81 sq. m.
 (b) E-W hall: 2.9×1.65 m.; area, 4.79 sq. m.
 (c) burial (?) chamber west of (a): 1.8×4.8 m.; area, 8.64 sq. m.
 Total area, a, b: 7.6 sq. m.

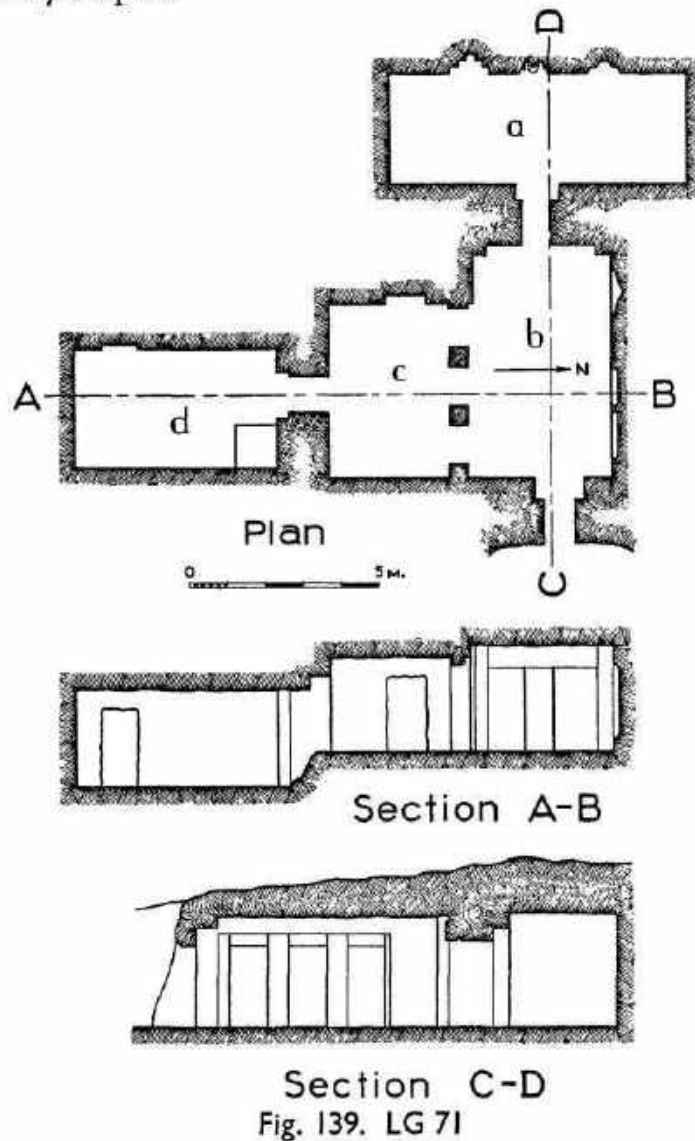


Fig. 139. LG 71

- (3) LG 80: Ipy; E-W hall with entrance from east, in east end; in middle of west end, a small N-S chamber (offering-room or burial-chamber?); in north wall, a doorway leading to another room or to another tomb.

Measurements and areas:

- (a) small N-S room: 1.4×0.85 m.; area, 1.19 sq. m.
 (b) E-W hall: 2.15×3.15 m.; area, 6.77 sq. m.
 Total area, a, b: 7.96 sq. m.

- (4) Selim Hassan: *Excavations at Giza*, I, Fig. 130; Akhet-hetep. Original form, long N-S offering-room with three niches and palace-façade panelling on west wall and rock-cut burial-places opening in walls; long E-W passage with doorway at each end; exterior corridor with doorway to passage in middle of its west wall and with two niches in the west wall, one on each side of

doorway (large south niche); altered later by widening north end of offering-room and cutting small room in north side of passage.

Measurements and areas:

(a) N-S offering-room, originally 7.13×1.18 m.; area, 8.41 sq. m.; prop. $1/6.04$.

(b) E-W hall: 1.3×1.7 m.; area, 2.21 sq. m.

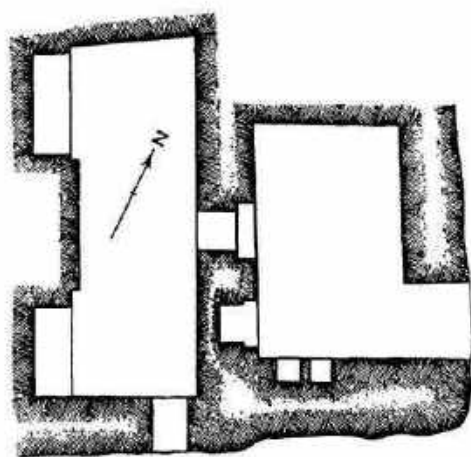
(c) N-S corridor: 8.25×1.4 m.; area, 11.55 sq. m.

Total original area, a, b: 10.62 sq. m.

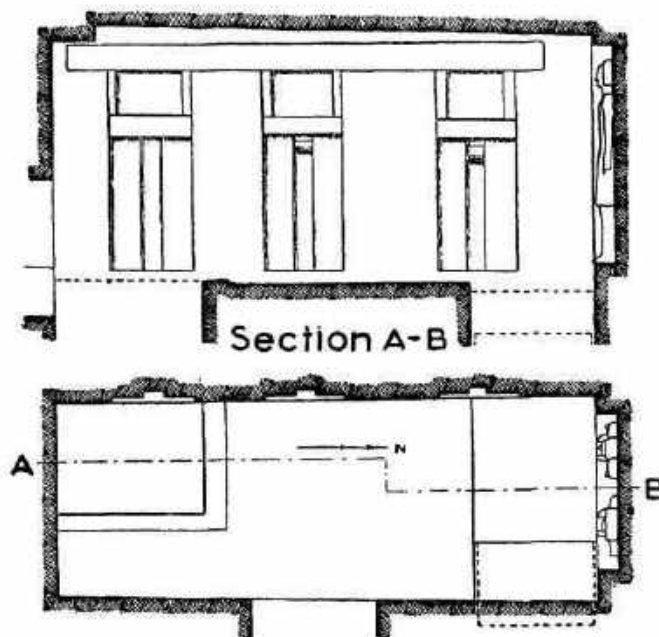
Total original area, a, b, c: 22.17 sq. m.

Area of later enlargement, not reckoned.

Type RC (ii c): with N-S offering-room with entrance in middle of east wall; with or without vestibule or other exterior rooms.



Plan 0 5 m.
Fig. 140. LG 86



Plan 0 1 2 m.
Fig. 141. G 7759 a

Examples:

(1) LG 86: Prince Nebemakhet, son of Chephren and Meresankh III. N-S offering-room with two niches in west wall; 9.5×3.3 m.; area, 31.35 sq. m.; prop. $1/2.88$; vestibule room, 6.17×3.85 m.; area, 23.75 sq. m.; outer entrance in south end of east wall of vestibule.

See Fig. 140.

(2) G 7759 a: long N-S room, with entrance in middle of east wall; 3.52×1.32 m.; area, 4.65 sq. m.; prop. $1/2.66$; in west wall, three false doors of which the middle niche is opposite entrance; in north wall, male and female statuette in r.c. recess; two shafts in floor, in NW and SW corners.

See Fig. 141.

Type RC (iii): N-S offering-room with entrance at one end of east wall.

Type RC (iii a): large tomb with asymmetrical outer rooms.

Example:

(1) Galarza Tomb (in Chephren Quarry Cem.): Queen Kha-merer-nebty I, wife of Chephren, mother of Mycerinus (see Daressy, *Annales*, X, pp. 41-49). N-S offering-room, 11.0×3.7 m.; area, 40.7 sq. m.; with deep recess in south end of west wall and entrance to chief burial-place

in north end; outer N-S corridor (altered at north end), with two niches in r.c. face north of doorway to offering-room; pillared hall, asymmetrical, with open aisle in middle leading to outer entrance; four burial-chambers and seven statues; only decorations on doorway to offering-room.

See Fig. 142.

Type RC (iii b): N-S offering-room (imitating form of L-shaped room) with entrance from east and multiple-niched or two-niched west wall; with or without additional rooms; burials in lateral chambers or in shafts in floor.

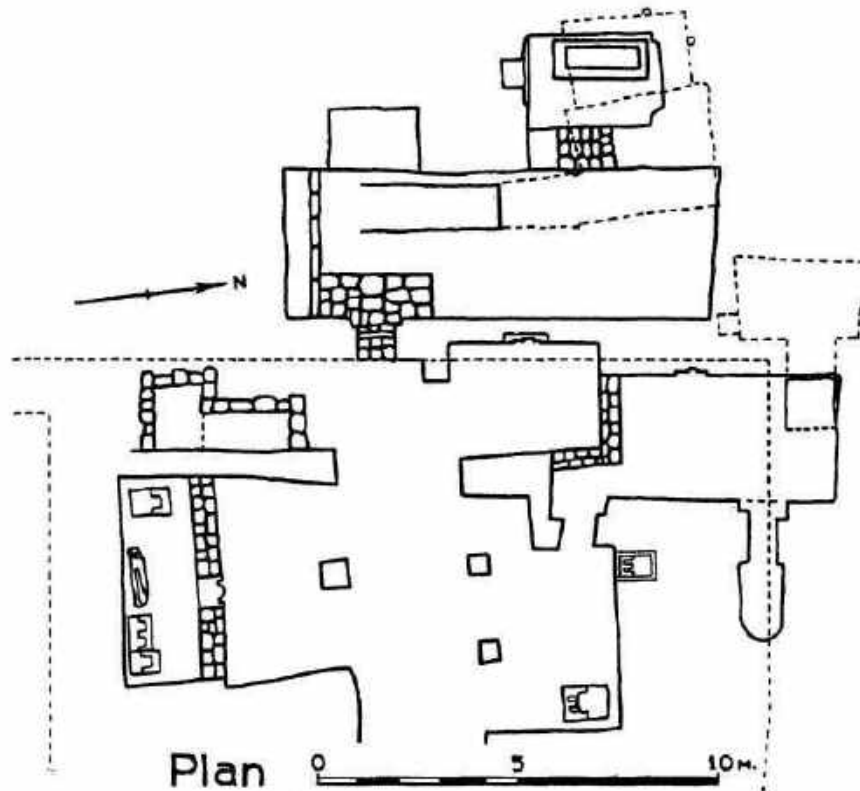


Fig. 142. Queen Kha-merer-nebty I

Examples:

- (1) LG 77: Thenty. Two similar rooms, (a) on east and (b) on west; room (a), 4.56×1.45 m.; area, 5.61 sq. m.; prop. $1/3.15$; entrance from east at north end of east wall; in west wall, four pairs of niches; between the third and fourth pairs of niches opens the doorway to (b); room (b), like (a) in form, 1.8×0.8 m.; area, 1.44 sq. m.; prop. $1/2.25$; in west wall two pairs of niches, and a fifth on the south. No shafts reported.

Total area, a, b: 8.05 sq. m.

See Fig. 143.

- (2) G 7814: upper rock-scarp middle of Eastern Cliff; Ka-aper, *rh nswt imy-r kst*; wife also *rht nswt* but no name preserved. Two N-S rooms, large hall (a) on east and offering-room (b) on west, shifted southwards.

(a) N-S hall: 5.6×2.5 m.; area, 14.0 sq. m.; entered from platform by doorway in east wall south of middle; doorway to (b) in west wall opposite entrance; two shafts in floor.

(b) N-S offering-room: west of south end of (a); 3.65×1.3 m.; area, 4.74 sq. m.; with two niches in west wall (south niche compound, north niche simple); uninscribed; entered by doorway from (a) in north end of east wall; 18.74 sq. m.

Decorated entrance doorway.

See Fig. 144.

- (3) Selim Hassan: Prince Yuwen-ra, *nswt-bit Hcf-rc, st-f šmšw, rpt hsty-c, hry-hb hry tp n it-f, šmr wcty n it-f, hrp ch, hry ššts n pr dwst, imy-rs kst nbt nt nswt, imshw hr it-f.*

(a) N-S offering-room with two compound niches in west wall: originally, 5.7×3.55 m.; area, 20.23 sq. m.; prop. 1/1.6; entered from east by doorway north end of east wall; afterwards enlarged northwards by a cutting contained in the NW corner partly in the rock wall, a square shaft.

(b) Shaft-room cut later in north wall of (a); 2.45×3.1 m.; area, 7.59 sq. m.

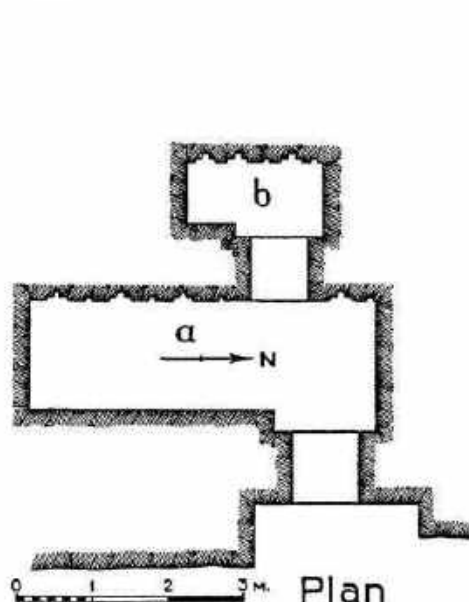
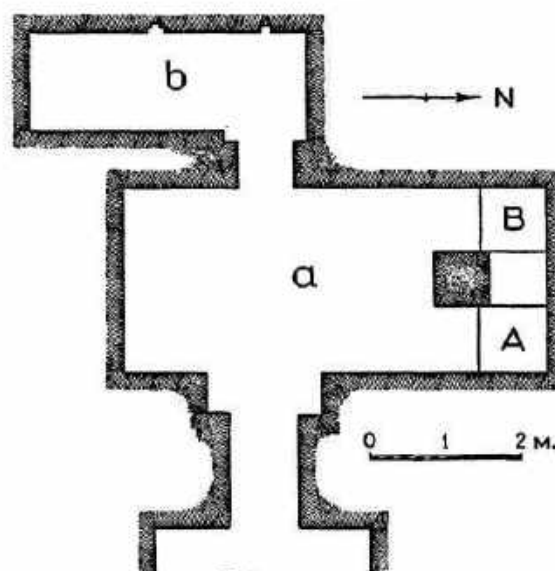


Fig. 143. LG 77



Plan
Fig. 144. G 7814

Total area, a, b: 27.82 sq. m.

The cutting of the façade was not finished and in the irregular N-S cutting is another shaft; from the unfinished cutting an open passage runs eastwards, 1.7 m. wide.

Walls not decorated; inscription on entrance door (drum architrave).

In the north wall of the E-W passage is cut the tomb of Sewaz-r-ka.

See Fig. 145.

- (4) LG 75: Khafra-ankh; N-S hall with entrance from east in north end of east wall; 7.3×3.3 m.; area, 23.76 sq. m.; prop. 1/2.18; in west wall three pairs of niches and statue recess on south; small subsidiary room excavated later through north wall of hall; shaft in floor of hall; decorated with reliefs.
- (5) LG 73: Dendenuw; N-S hall with entrance from east in south end of east wall; 3.1×2.4 m.; area, 7.44 sq. m.; prop. 1/1.28; five compound niches in west wall; other rooms are unreported.
- (6) LG 78-x (north of 78): N-S hall, with entrance from east at south end of east wall; in west wall, two compound niches and at north a r.c. statue in a recess; 6.5×2.2 m.; area, 14.3 sq. m.; prop. 1/2.9; no shafts recorded.
- (7) G 7837: Ankh-ma-ra; a second similar chamber had been made south of G 7837 (G 7843), and when G 7837 was made its south end was broken through into the north end of G 7843 and the walls used in part at least for the decorations of Ankh-ma-ra. The two parts of Ankh-ma-ra's chamber have a slightly different orientation and a different floor-level, and the north part is

called (a) and the south part (b); each is entered from the east by a doorway at north end of east wall.

- (a) G 7837: 6.3×2.6 m.; area, 16.38 sq. m.; prop. $1/2.42$; with two niches in west wall and three statues between the niches; numerous statues in walls under reliefs.
- (b) G 7843: 4.65×2.65 m.; area, 12.69; prop. $1/1.79$; with one rough niche at south end of west wall; not finished at south end; walls partly decorated (east wall north of doorway) with reliefs of Ankh-ma-ra; east wall, south of doorway, and west wall had traces of decoration.

Total area: 29.07 sq. m.

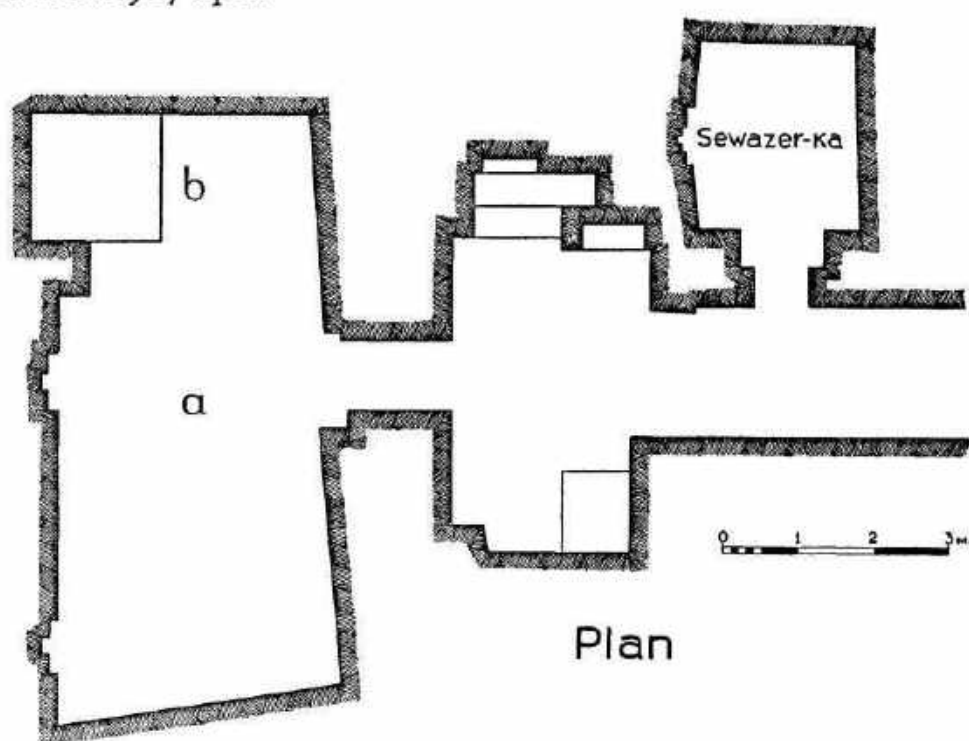


Fig. 145. Prince Yuwen-ra

- (8) G 7851: with entrance from east; in west wall, on south, opening of burial-chamber, statuette in recess, and niche at north; 4.75×2.4 m.; area, 11.4 sq. m.; prop. $1/1.97$; three other lateral burial-chambers and two shafts.
- (9) G 7845: with entrance from east; large niche at north end of west wall; 5.55×2.5 m.; area, 13.87 sq. m.; prop. $1/2.22$; shaft in floor near middle of west wall.
- (10) G 7846: with entrance from east; in west wall, niche (?) at south; 3.7×2.1 m.; area, 7.77 sq. m.; prop. $1/1.76$; shaft in NW corner.
- (11) G 7761 a: with entrance from east; two compound niches in west wall; 3.5×2.15 m.; area, 7.52 sq. m.; prop. $1/1.63$; two shafts in south end in floor; altered by Ptolemaic cuttings.
- (12) G 7847: entrance from east; rough niche at north end of west wall; 3.2×1.75 m.; area, 5.6 sq. m.; prop. $1/1.83$; shaft in SW corner of floor.
- (13) LG 79: Ptah-nefer-sefekh; with entrance from east in south end of east wall; in west wall, at south, opening of lateral burial-chamber, and at north, small r.c. statuette in recess; 2.25×1.1 m.; area, 2.48 sq. m.; prop. $1/2.5$.
- (14) G 7766 Y: with entrance from east at south end of east wall; niches in west wall probably

removed by Ptolemaic alterations; 5.25×2.3 m.; area, 12.08 sq. m.; prop. 1/2.28; sloping passage of type 9 opening in south wall; remains of mastaba on rock above.

- (15) G 7762 a: unfinished N-S chamber with entrance near south end of east wall; 4.1×2.1 m.; area, 8.61 sq. m.; prop. 1/1.95; southern end from north side of door to south finished with shallow false door and statue in recess in west wall with compartment list above them; shaft in floor in front of statue; unfinished part altered in Ptolemaic times.

Type RC (iii c): small N-S chambers with shaft or shafts in floor ('shaft-chamber'); entered from east. Usually attached to large chambers of type RC (i); with a few examples cut independently for very poor tombs.

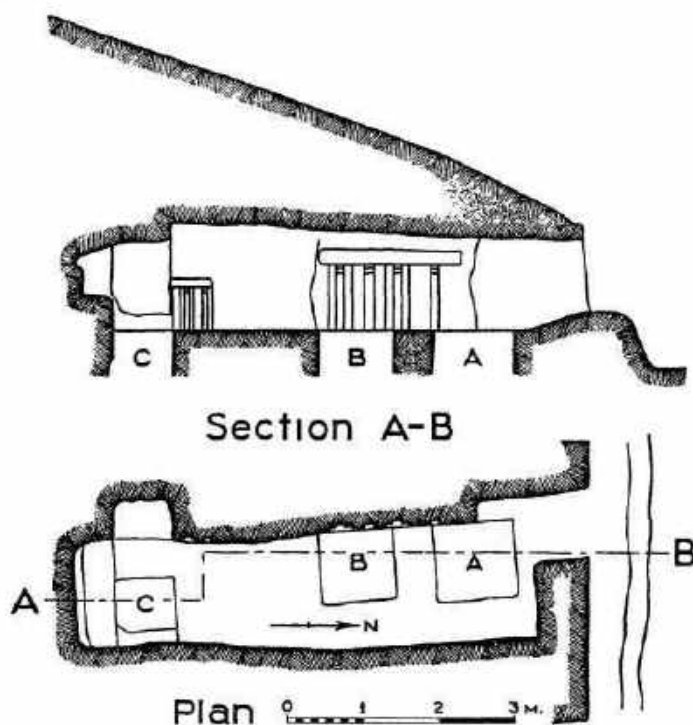


Fig. 146. G 1607

Example:

- (1) G 7853: entrance from north, 0.74×0.65 m.; area, 0.41 sq. m.; prop. 1/1.32; shaft in NE corner.

Type RC (iii d): N-S offering-room opening in west end of E-W hall.

Examples:

- (1) G 7821: in eastern cliff; Ptah-nefer-seshem, *rḥ nswt, imy-r, pr ht-ctt*.

- (a) N-S offering-room, 3.15×1.45 m.; area, 4.56 sq. m.; prop. 1/2.16; no niche in west wall, but at north end of that wall an offering-recess with an offering-stone cut in rock in recess; shaft C in SW corner.
- (b) E-W hall connecting (a) with entrance; 1.78×3.7 m.; area, 6.58 sq. m.; west end opens directly into room (a) through north half of its east wall; entered by doorway from east in south end of east wall; in floor, two shafts, A and B.

Total area, a, b, and recess: 12.09 sq. m.

- (2) G Service No. 2: lower scarp north end of Eastern Cliff; Ka-n-neb, *šmsw hwt, šḥd n nfrw*.

- (a) Unfinished N-S offering-room broken into chamber (c) of Service No. 1; 4.4×2.75 m.; area, 12.1 sq. m.; without niche in west wall but large lateral burial-chamber in south end of that wall; shaft in floor in NW corner.

- (b) E-W wall: $2.75 \times 3.0 \times 3.45$ m.; area, 9.91 sq. m.; two lateral chambers and one shaft in floor; entered from east by doorway in middle of east wall.

Total area: 22.01 sq. m.

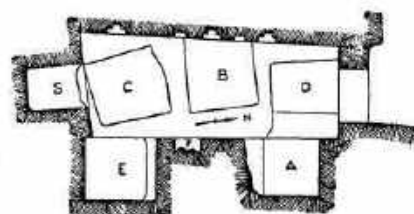
The examples of type RC (iii) bear a general relation to the L-shaped chapels of types (3) and (4). Many of the chapels of type RC (i) present degenerate forms resembling the corridor chapel of type (5). The type of chapel which I now list, type RC (iv), is a true corridor chapel in the sense of the mastaba chapel of type (5).

Type RC (iv): N-S hall or corridor with entrance from the north or south.

Type RC (iv a): N-S hall or corridor with entrance from the north or south.

Examples:

- (1) G 1607: Ian and Neferi. Exterior r.c. platform; corridor entered from north; 5.5×1.5 m.; area, 8.25 sq. m.; prop. 1/3.66; in west wall three pairs of niches and wide shallow recess on south; three shafts in floor; unfinished decoration. See Fig. 146.
- (2) G 1609: unfinished. Exterior c.b. platform; N-S corridor with entrance from north; 2.8×1.0 m.; area, 2.8 sq. m.; prop. 1/2.8; no niche preserved (perhaps painted); two shafts in floor.
- (3) G 1608: Sennuw. Exterior c.b. platform; N-S corridor with doorway on north; 3.3×1.3 m.; area, 4.29 sq. m.; prop. 1/2.53; two pairs of niches in west wall and extra compound niche on north; six shafts, three in floor and three in recess in east wall; partly decorated; intact serdab in south wall. See Fig. 147.
- (4) G 7822: in upper scarp in middle of Eastern Cliff; Mesuw, *rh nswt hrp kinyw*. N-S offering-room, 3.4×1.4 – 1.8 m.; area, 5.44 sq. m.; prop. 1/2.12; entered by doorway from south in east end of south wall; destroyed niche in middle of west wall; three shafts in floor.
- (5) LG 65: N-S corridor; doorway on north; 2.8×1.55 m.; area, 4.34 sq. m.; prop. 1/1.74; in west wall, deep niche on south and two compound niches together on north; three statues in recess in south wall; shafts unreported.
- (6) LG 66: N-S corridor with doorway on north; 3.85×2.0 m.; area, 7.7 sq. m.; prop. 1/1.93; in west wall, compound niche at south and rest unrecorded; shafts unrecorded.
- (7) G 7838: N-S room with entrance from north; 4.1×2.8 m.; area, 11.48 sq. m.; prop. 1/1.46; compound niche at south end of west wall; shaft in NW corner of floor.
- (8) G 1643: rectangular room entered from north; exterior open corridor; 2.4×1.7 m.; area, 4.08 sq. m.; prop. 1/1.41; two pairs of niches in west wall; two shafts in floor along west wall.
- (9) G 1646: exterior open corridor; room entered from north; 2.2×1.6 m.; area, 3.62 sq. m.; prop. 1/1.37; two pairs of niches in west wall; two shafts in floor.
- (10) G 1647: exterior open corridor; N-S room with doorway on north; 2.1×1.52 m.; area, 3.19 sq. m.; prop. 1/1.35; one niche in west wall; two shafts in floor in SW and NW corners and unfinished shaft-chamber south of SE corner.
- (11) G 7853: entrance from north; 1.75×1.4 m.; area, 2.45 sq. m.; prop. 1/1.25; no niches preserved; shaft in NE corner of floor.
- (12) G 1612: exterior N-S corridor entered from west; N-S room with entrance from north; 1.36×0.86 m.; area, 1.16 sq. m.; prop. 1/1.28; roofed with slabs; in west wall two niches; one shaft in floor.



Plan 0 1 3"
Fig. 147. G 1608

Type RC (iv b): N-S room with alcove corridor opening in south end of west wall.

Example:

(1) G 1611: exterior r.c. platform; N-S corridor with entrance from north.

(a) 3.0×1.1 m.; area, 3.3 sq. m.; prop. 1/2.73; with parallel alcove opening in south end of west wall.

(b) 2.3×1.1 m.; area, 2.53 sq. m.; prop. 1/2.09; one niche in west wall of (a) and large recess in west wall of (b); two shafts in (a) and two in (b).

See Fig. 148.

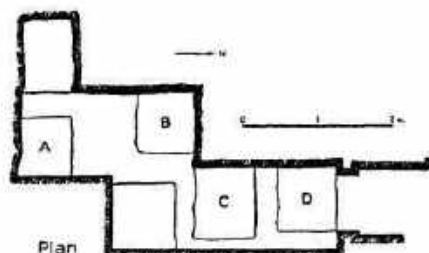
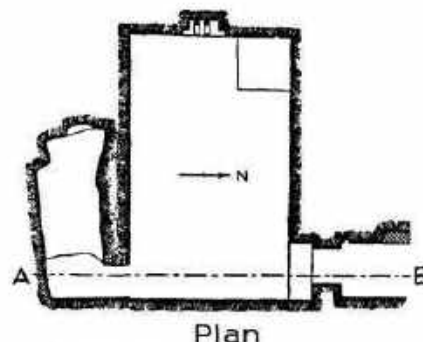


Fig. 148. G 1611



Plan

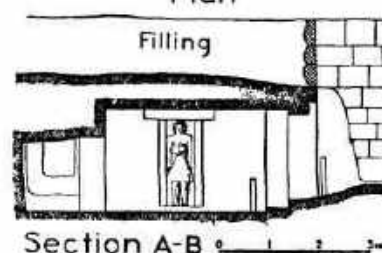


Fig. 149. G 2196

Type RC (iv c): corridor with entrance vestibule on south; entered from south.

Example:

(1) G 7815: in Eastern Cliff; Hap-n-nebty, *rhī nswt hm ntr Nt, hm ntr Ht-Hr*.

(a) N-S offering-corridor; 4.4×1.55 m.; area, 6.82 sq. m.; prop. 1/2.83; near south end of west wall a decorated rock-cut stela; entered from vestibule alcove; two shafts in floor.

(b) Vestibule alcove, east of south end of (a); 1.65×0.9 m.; area, 1.48 sq. m.; entered from south by doorway in south wall.

Total area: 8.3 sq. m.

Type RC (v): E-W hall or offering-room, entered by doorway or by long passage in east end of north or south wall.

Type RC (v a): E-W offering-room, entered from north or south; with burial-shafts in floor or lateral burial-chamber in walls.

Examples:

(1) G 2196: Yaseu; large hall fully decorated entered at east end of north wall by doorway approached by long built corridor (N-S) with outer doorway from east at north end of corridor; 3.17×5.23 m. and 2.06 m. high; area, 16.52 sq. m.; capacity, 34.17 cu. m.; prop. 1/0.61; statue in recess in west wall; small shallow niche north of statue; small rock-cut serdab in east end of south wall; shaft in floor in NW corner. See Fig. 149.

(2) G 7823: E-W offering-room, entered by doorway in east end of north wall; 1.9×2.9 m.; area, 5.51 sq. m.; prop. 1/0.65; in floor two shafts, A and B.

- (3) G 7836: Eastern Cliff; Nebty-her-kauw-s, *rht nswt hm ntr Ht-Hr nbt nht*, husband, Khnum-hesuw-f, *ss smwt ht-ctt*. E-W offering-room, $1.6-2.0 \times 3.2$ m.; area, 5.76 sq. m.; prop. 1/0.56; with framed stela cut in rock in middle of west wall; entered from south by doorway in east end of south wall; one shaft in floor and four lateral burial-chambers in walls.
- (4) G 7839: in Eastern Cliff; E-W offering-room, 1.3×2.6 m.; area, 3.38 sq. m.; prop. 1/0.5; no niche in west wall; one shaft in NW corner.

Type RC (v b): E-W offering-room entered from north by long rock-cut passage opening in east end of north wall.

Example:

- (1) LG 68: Iteti; entered from north by long rock-cut passage; 3.2×4.2 m.; area, 13.44 sq. m.; prop. 1/0.76; no niches preserved in west wall; several lateral burial-chambers in south and west walls.

Type RC (v c): E-W hall entered from east by doorway in middle of east wall.

Example:

- (1) Service No. 1: lower scarp north of Eastern Cliff; Ka-zeded, *ss nswt n ht-f*.

(a) Great E-W hall, 5.87×10.5 m.; area, 61.63 sq. m.; prop. 1/0.55; in west wall two large compound niches with statue recess between them (contained a life-size pair statue of red granite); entered by doorway in middle of east wall; doorway to room (b) opening in north wall east of middle; doorway to (c) in south wall west of middle; in north wall west of doorway to (b), a palace-façade panelling; in each part of north wall, in each half of east wall, and in each part of south wall, two compound niches.

(b) Lateral burial-chamber of type 4 a (2); 4.15×4.7 m.; area, 19.5 sq. m.; on each of four walls a 'great door'.

(c) Lateral burial-chamber, type 4 a (2); 3.5×4.55 m.; area, 15.92 sq. m.

Total area, a, b, c: 97.05 sq. m.

Type RC (vi): square or nearly square offering-room (prop. 1/1.2 to 1/0.6); entered from north, south, or east.

Type RC (vi a): nearly square offering-room; entered from north or south.

Examples:

- (1) Selim Hassan: 'Prince' Ni-ankh-ra, *ss nswt, smr wcty, hry ššt n pr dwst, hry ššt nswt m šwt-f nbt, imy-ib n nb-f, mrr nb-f, hry hb, imy-rš ht nbt nt nswt, tpy hr nswt*.

Situated in higher rock-scarp between Debehen and Sekhemkara.

See Fig. 150.

- (2) Selim Hassan: Sewaz-r-ka; situated in north wall of passage leading to tomb of Chephren's son Yuwen-ra; entered from south by doorway in middle of south wall of (a).

(a) Offering-room, 2.5×2.0 m.; area, 5.0 sq. m.; with shallow compound niche in middle of west wall.

Inscribed doorway.

- (3) LG 64: Nes-m-nehuw; large room with entrance from north; enlarged by excavations at south end of chamber; 2.8×2.4 m.; area, 6.72 sq. m.; prop. 1/1.17; with two niches in west wall (compound on south and simple on north); addition on south added another compound niche on south; add., 0.6×2.25 m.; area, 1.35 sq. m.

Total final area, 8.07 sq. m.; shafts not reported.

See Fig. 151.

- (4) G 1642: square room entered from north at east end of north wall with an exterior open N-S corridor; 2.24×2.2 m.; area, 4.4 sq. m.; prop. 1/1.02; one niche in west wall of exterior corridor; no niches preserved in west wall of chamber (perhaps painted); one shaft in floor and one in recess in north wall at west end.
- (5) LG 67: small room with entrance from north; 1.7×1.4 m.; area, 2.38 sq. m.; prop. 1/1.21 m.; two shafts; no niches visible.
- (6) G 1618: square room with entrance from north; no niches; 2.1×2.0 m.; area, 4.2 sq. m.; height, 1.02 m.; prop. 1/1.05; four shafts, one in each corner.

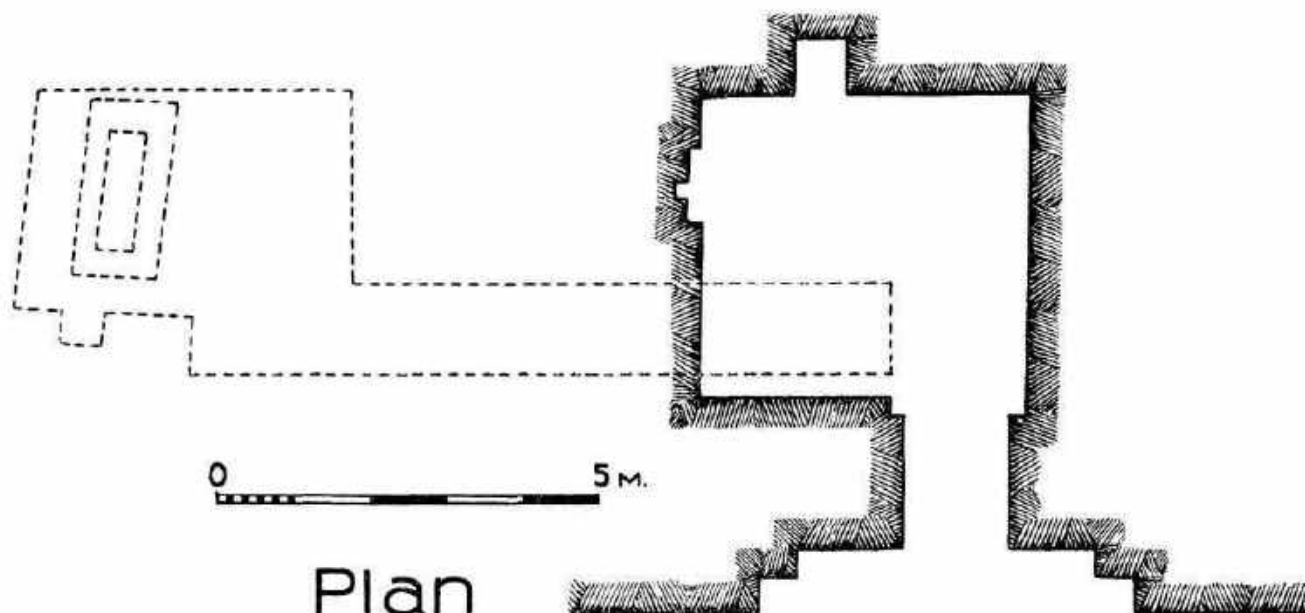


Fig. 150. Ni-ankh-ra

- (7) G 7832: in upper scarp of Eastern Cliff; no decoration.
 - (a) square offering-room, 2.75×2.55 m.; area, 7.01 sq. m.; prop. 1/1.07; compound niche in middle of west wall; entered from north by doorway in west end of north wall; shaft in floor of chamber.

Type RC (vi b): nearly square room entered from east.

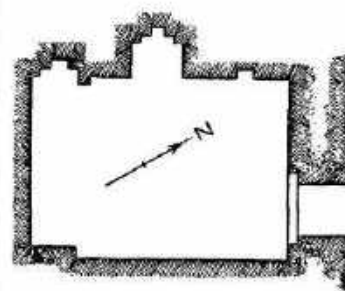
- (1) G 7826: upper scarp in Eastern Cliff; no decoration. Irregular E-W offering-room; $c. 2.0 \times 2.35$ m.; area, 4.7 sq. m.; prop. 1/0.85; without niche in west wall; entered by doorway in north end of east wall; three shafts in floor.

The rock-cut chapels of type RC (i) are clearly the earliest of the rock-cut chapels at Giza and, as far as we know, in Egypt. The largest of the mastaba chapels with L-shaped offering-room are those of Ka-wab, Meresankh II, and Khufuw-khaf, which have exterior stone rooms. These three have different plans, but the chief exterior room is a N-S room placed directly east of the interior L-shaped chapel, and the approach was from the north, the south, or the east. In the chapels of type RC (i) the approach was limited by the direction of the rock-scarp and was functionally from the east. The first room (a) corresponds, therefore, to the exterior chapel of the mastabas and like them was decorated. This room leads northwards to the offering-room with its offering-niches (one or two) in its west wall. This by its position deep in the rock was an E-W room replacing the L-shaped chapel and, like it, decorated with painted reliefs (when finished). The pillared alcove does not appear in the mastaba chapels of earlier date, for it is not to be identified with the pillared portico which occurs in

front of the north entrance of the exterior chapel of Ka-wab. The alcove generally leads to a shaft-chamber, and I conclude that this feature was introduced expressly to provide a connexion between the chapel and the burial-place. The fact that the recess in the middle of the west wall of the alcove was sometimes converted into a serdab presents an alternative origin of the alcove, but I believe that it arose in the way stated above. The final conclusion is that type RC (i) was based on the large L-shaped chapels of the reign of Cheops and Chephren, which had exterior stone chapels, but that the relative position of the chambers was altered by the fact that they were excavated in solid rock, not built on the surface, and further altered by the necessity of placing the burial-places in the side walls or in the floor. The chapels of type RC (i c and i f), two of which had the entrance from the south, present an approach to the corridor type of chapel, and one of the chapels of type (i c) may be reconstructed as a cruciform chapel.

The chapels of type RC (i) also present the greatest areas of wall surface which might be, and in many cases actually are, used for reliefs and inscriptions. The extent of these areas is indicated approximately by the floor areas of the chapels. The floor areas of the chapels of the five twin-mastabas in Cem. G 7000 range from 5 to 7 sq. m. for the L-shaped offering-room and do not exceed 20 sq. m. for the whole chapel, including the exterior stone rooms. The areas of the rock chapels of type RC (i) range from 32.26 sq. m. to 82.95 sq. m., with a mean area of 54.15 sq. m. By reason of the increased wall space, the scenes represented were greatly expanded, and from this point onwards the scenes in the mastaba chapels were also altered in character. It is to be noted that the decoration of these walls, cut in grey nummulitic limestone, required a technique differing from that employed on the mastaba chapels of white limestone. The description of this process will be given in another place, but the essential fact is that in the finished form the reliefs appeared partly cut in the stone and partly formed in a heavy sizing of white plaster. The reliefs were painted, as were the reliefs in white limestone. The records contained on each side of the doorway of the tomb of Meresankh III testify to the conclusion that the largest of these tombs could have been excavated and decorated in less than a year. The cost in labour of the excavation was certainly far less than that of building a mastaba like G 7120. The decoration of the chapels involved a far greater area of reliefs, but it is probable that the labour was lessened by the cheaper process of finishing the reliefs and by the omission of the transport of stone for both mastaba and chapel.

The cruciform chapels of type RC (ii) appear not to be based on the chapels of type RC (i) but on the pyramid chapels of Dyns. IV-V. The essential feature is the series of doors and passages in the E-W medial axis of the tomb, with rooms N-S placed symmetrically in this axis. In the chapels of the Second and Third Pyramids the outer part consists of a great open court with an offering-place on the west side, consisting of a N-S pillared portico the west wall of which has the form of a compound niche (great door niche) and a long E-W chamber opening in the middle westwards. The inner offering-place with the offering-room are placed asymmetrically behind these outer rooms: and each temple has its own ground-plan. In the temple of the queen's pyramid G III-a, the ground-plan is more nearly like that of the largest rock-cut cruciform chapels. On the east is a panelled open court on the west side of which is a pillared portico. From the middle of the portico a doorway opens westwards giving a view westwards, through the doorways of the three remaining rooms, to the offering-niche against the middle of the pyramid. In this medial E-W axis lie three rooms (3, 9, and 12) placed symmetrically on the axis. Room 3 is a vestibule, room 9 is a N-S corridor with palace-façade panelling in the west wall and with the



Plan 0 1 2 m.
Fig. 151. LG 64

doorway to room 12 in the middle of the panelling; room 12 is a N-S offering-room with compound niche in the middle of the west wall. Other rooms lie north and south of the axis rooms. The chapels of the other two small pyramids, G III-b and c, were forced by the narrow space available into a N-S direction, and while presenting the same functional chambers have an asymmetrical ground-plan. It seems to me probable that the cruciform chapels of type RC (ii) were based on the c.b. temple of G III-a, which must have remained in good condition with its funerary service still functioning until late in Dyn. V. The two first examples mentioned under type RC (ii a) appear to have been designed with the pyramid chapel of G III-a in mind. It will be remembered that the r.c. chapel of Khuwnera (son of the queen assigned to G III-a) may have been originally designed as a cruciform chapel of type RC (ii a). If so, it was probably the first of this type to be excavated. Type RC (ii b) presents a modification of the cruciform type by replacing the outer N-S apartments with a large E-W hall, but keeps the symmetrical plan based on the E-W axis. Type RC (ii c) presents the cruciform chapel reduced to its simplest element, the N-S offering-room with doorway from the east in the middle of the east wall. One of the chapels of type RC (ii c), Nebemakhet, appears to be only a little later than the examples of type RC (i). Nebemakhet, as son of Chephren, was probably a younger brother of the queen of G III-a (Kha-merer-nebty II?) and an uncle of Prince Khuwnera. His other tomb, LG 12, which may be earlier or later than the LG 86, is apparently of type RC (i c) but has the higher chamber on the south (cf. the tomb of his mother, Meresankh III). Nearly opposite the doorway is the room c, which was probably a serdab. This tomb has a cruciform appearance by the situation of the entrance in the middle of the east wall of a+b, with the serdab (?) nearly opposite, but I suspect that this appearance is accidental.

The remaining types of the rock-cut chapels, RC (iii-vi), have an asymmetrical arrangement of entrance and rooms. The great majority of the examples indicate that these types were based on mastaba chapels of Dyns. V-VI. The proportions of many of the examples do not correspond to those of the mastaba chapels because the soundness of the rock made possible the cutting of chambers wider than those roofed with stone slabs. Taking the general appearance of the type RC (iii), it is obvious that it was an imitation of the mastaba chapels of the L-shaped form. The niche-work in the west wall is, however, seldom like the chapels of types (3) and (4), although examples occur with one or two niches clearly cut. Other examples have apparently no niches and others, generally of larger size, have a series of pairs of niches like mastaba chapels of type (5). The place of one of the niches in a chapel was often taken by a burial-chamber or a serdab cut laterally in the wall of the chamber. The type RC (iv) is a true corridor chapel imitating mastaba chapels of type (5) with the same irregularities in the niche-work, as Type RC (iii). Types RC (v) and (vi) originate in the mastaba chapels of type (10). Chapels of type (10) of larger size have the roof supported by one or more pillars.

The examples of RC (v) and (vi) do not require any support for the rock-cut roof. The two examples of RC (5 a) have large E-W offering-rooms entered by a N-S corridor and are much larger than any of the mastaba chapels of type (10).

It is clear that as a whole the RC types (iii)-(vi) were imitations of built chapels of Dyns. V-VI. Variations from the mastaba type arose out of the manner of excavating the rock-cut chapels and the necessity for making the burial-places in the chapel itself.

One example of type RC (iii b) (No. 3), the tomb of Yuwen-ra, son of Chephren, may be dated to the end of Dyn. IV, but no other example of types RC (iii)-(vi) can be dated previous to Dyn. V.¹ The general range is Dyns. V-VI. It is apparent that the selection of one or other of these contemporaneous types (RC (iii)-(vi)) depended largely on the orientation of the rock-scarp in which they were excavated.

¹ Recently two other tombs have been dated to late Dyn. IV, Service No. 1 (see p. 243) and Service No. 6.

In conclusion, the origin and development of the rock-cut tombs at Giza lead to the following deductions:

- (a) The early rock-cut tombs were those of the family of Chephren made in the old Cheops-Chephren Quarry, probably in the reign of Mycerinus. They are large tombs of the main line of development, and in their day correspond to the great twin-mastabas of the time of Cheops. These early tombs are of type RC (i), based on the L-shaped offering-room with exterior stone rooms.
- (b) Type RC (i) increases considerably the wall space available for reliefs and introduces a great expansion of the scenes used in the previous mastaba chapels.
- (c) The carving of the expanded reliefs on the nummulitic walls of the chapels of type RC (i) led to the invention of the process of making sized-plaster reliefs and trained a body of craftsmen skilled in that process. These craftsmen made possible the use of the cheaper nummulitic stones in the mastaba chapels from this time onwards.
- (d) The examples of cruciform chapels RC (ii) are not numerous in any of the variations. The earliest is perhaps the simple chapel of Prince Nebemakhet, made in the end of the reign of Mycerinus or soon thereafter. The more elaborate examples of Dyn. V appear to be modelled on the cruciform chapel of G III-a.
- (e) The types RC (i) and (ii) present examples of simplified form which approach the corridor or hall form with N-S offering-room. In the mastabas the corridor form predominates, accompanied by square forms and complex forms of more than one room. The remaining types of r.c. chapels are imitations of the later mastaba chapels.

(6) *Mastaba Chapels of the Cruciform Type, Type (6)*

The cruciform chapel appears first at Giza in pyramid temples, and was not directly derived from the old cruciform chapel of Dyn. III. The old cruciform chapel had only one niche, placed in the middle of the west wall directly opposite the doorway. At Giza the one-niched cruciform chapel with the niche opposite the doorway is rare (see G III-a and *Excavations at Giza*, I, Fig. 22). The majority have two niches with doorway opposite the space between, or one niche set at one end of the west wall, not opposite the entrance. The earliest example appears to be the chapel of the small pyramid G I-b which is a two-niched cruciform chapel built against the front of the sloping façade of the pyramid and is in fact an exterior chapel like chapel type (2) in construction. It is possible that the chapel of G I-c was of the same type, but it has been badly damaged and perhaps altered when it was enlarged to become the temple of Isis (Mistress of the Pyramids), and now the entrance appears to be north of the medial axis, while only one niche is preserved at the south end of the west wall. The temple of G I-b has an entrance corridor on the east, an E-W hall with a doorway at each end (cf. entrance halls of G I-III). The next of the chapels of the small pyramids preserved to us is that of G III-a, a c.b. chapel with five apartments, placed symmetrically in the E-W medial axis of the temple, consisting of an open panelled court, a pillared portico, a N-S vestibule-room, a N-S offering-room with palace-façade panelling on the west wall, and a small one-niched offering-room against the pyramid. After these cruciform pyramid chapels come the rock-cut chapels of type RC (ii) (see above, section 5). The finest of these appear to be based on the temple of G III-a, but other simplified examples occur, in particular type RC (ii c) with two examples. One of the two cruciform rock-cut chapels of simplified form is that of Prince Nebemakhet, son of Chephren and Meresankh III. In the Western Field the mastaba G 5110 is assigned to Prince Duwanera, a younger brother of Nebemakhet, and this mastaba has an interior chapel set in the middle of the mastaba with its entrance in the middle of the east façade, and apparently with subsidiary niche on north and south.

The chapel with two niches in the west wall extends symmetrically north and south of the entrance, and the whole plan is very like the plan of the actual two-niched offering-room of Nebemakhet. The offering-room of Nebemakhet is like that of G I-b, but has a N-S vestibule room instead of the E-W hall.

The list of built cruciform chapels, including both pyramid and mastaba chapels, is as follows:

Type (6 a): exterior pyramid chapels of stone or c.b. each built on a separate plan.

Examples:

(1) G I-b: pyramid of queen; x-masonry; offering-room and E-W vestibule hall.

(a) 10.5×2.05 m.; area, 21.52 sq. m.; prop. $1/5.14$; two compound niches in west wall; entrance in middle of east wall.

(b) 1.1×3.9 m.; area, 4.29 sq. m.; not including jambs of two doorways.

Total floor area: 25.81 sq. m.

See Fig. 120.

(2) G I-c: pyramid of Queen Henutsen (?); white limestone; N-S offering-room, partly destroyed and partly obscured by construction of the Isis Temple; offering-room reconstructed as two-niched N-S room; 9.25×2.15 m.; area, 19.89 sq. m.; prop. $1/4.3$; with entrance in middle of east wall; on outside face of east wall, on each side of doorway, palace-façade panelling which must have been exposed either in an open court or in N-S room, or in a hall wider than that of G I-b.

(3) G III-a: pyramid of Queen Kha-merer-nebty II (?); built of c.b.; five apartments placed symmetrically in E-W medial axis; see Reisner, *Mycerinus*; inner one-niched cruciform offering-room and outer N-S offering-room with palace-façade panelling on west wall.

Type (6 b): interior mastaba chapels; form based on RC (ii c).

Example:

(1) G 5110: Prince Duwanera, younger brother of Prince Nebemakhet. Mastaba core: type IV iii cased with x-masonry as type VIII x; area, 1261.75 sq. m.; prop. $1/2.1$; with chapel in medial E-W axis with entrance in middle of east façade; subsidiary north niche in façade and probably subsidiary south niche (now destroyed); offering-room, 7.85×1.75 m.; area, 13.73 sq. m.; prop. $1/4.18$; relation, $1/91.89$; with two niches in west wall and serdab behind south wall; decorations unfinished.

See Fig. 152.

Type (6 c): exterior mastaba chapel with cruciform design.

Example:

(1) G 5230: 'Prince' Khnumbaf, son (?) of Prince Duwanera. Mastaba: type IX a; area, 651.07 sq. m., with single compound niche in the middle of the façade, and two subsidiary niches, one north and one south of the middle niche; on each side an exterior offering-room with four large serdabs thrown out to east; large space between two outlying constructions, probably intended for open court or large offering-room.

See Fig. 153

The cruciform chapel is not adapted to mastabas crowded together in a great cemetery. It can only be used for a mastaba on an independent site with free space in front unhampered by existing structures. All the examples listed above are attached to pyramids or large mastabas fulfilling these conditions. There are a number of later mastabas which also present the required circumstances, such as the nucleus mastabas of the complexes of Senezem-ib (Yenty) (G 2370) and Shepseskaf-ankh (G 6040), but neither of these mastabas used the cruciform design. It is noteworthy that the cruciform rock-cut chapels were also very rare. The two mastabas with cruciform chapels, G 5110 and G 5230, side by side, are the tombs

probably of father and son, and the father was a brother of Nebemakhet, the owner of one of the few chapels of type RC (ii c) (see also type (7 e)).

c. Chapels of Type (4 b): Transition from Chapels of Types (3) and (4 a) to Chapels of Type (5)

The chapels of types (3) and (4) had the following characteristic features:

- (a) The chapel was in the SE corner of the mastaba with entrance from the east at the north end of the east wall.
- (b) The presence of an exterior subsidiary niche towards the north end of the mastaba.

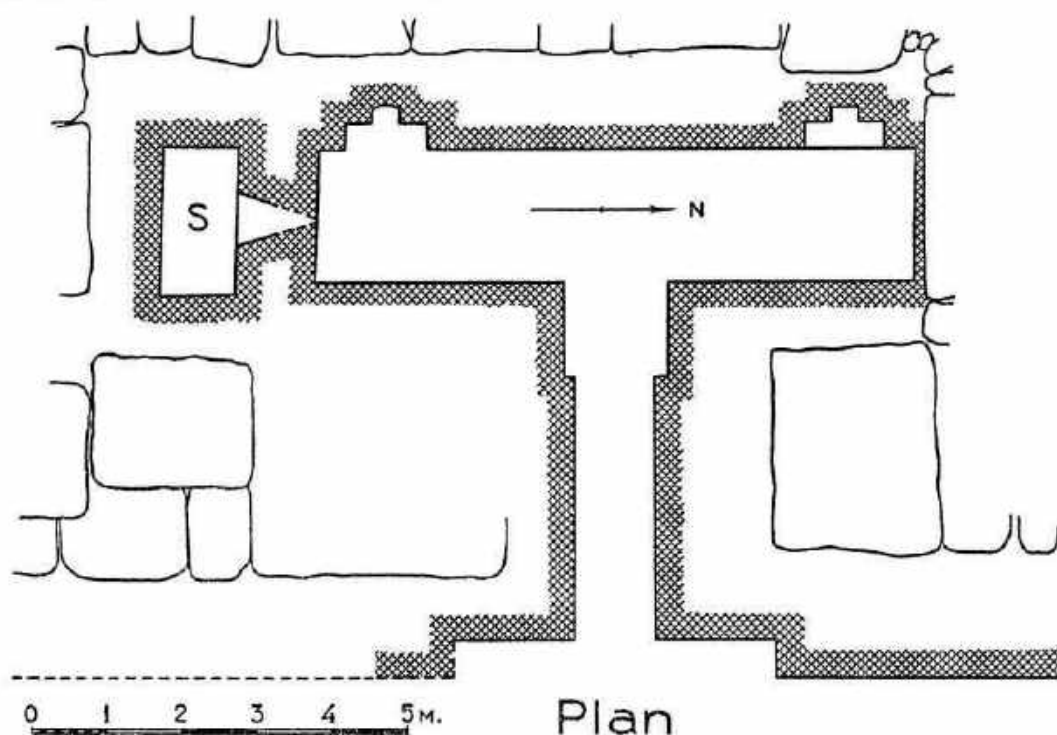


Fig. 152. G 5110

(c) A relation between area of chapel and area of mastaba ranging from $1/20$ in small mastabas to $1/300$ in large mastabas.

(d) An offering-room ranging around a mean proportion of $1/2.66$.

The corridor chapels of type (5), on the other hand, had:

(a) The chapel more than half the length of the mastaba and running N-S in the eastern part of the mastaba; entered from east or from north or south.

(b) The absence of the exterior subsidiary niche on the north.

(c) A relation ranging from $1/3$ to $1/20$.

(d) An offering-room of proportions ranging from $1/3$ upwards to $1/10$.

When the chapels which appear to be later than Neferirkara are examined a number are seen to approximate to the chapel form of type (4 a) and others to that of type (5 a). I label these chapels of doubtful form as chapels of type (4 b). This type (4 b) assumes an increased importance at Saqqarah, where it replaced the chapels of type (5) as intermediate between the modified cruciform chapels and the enlarged chapels of types (7) and (12). These Saqqarah chapels are generally longer than the older chapels and appear, in fact, to be short corridor chapels.

Section A-B Looking North

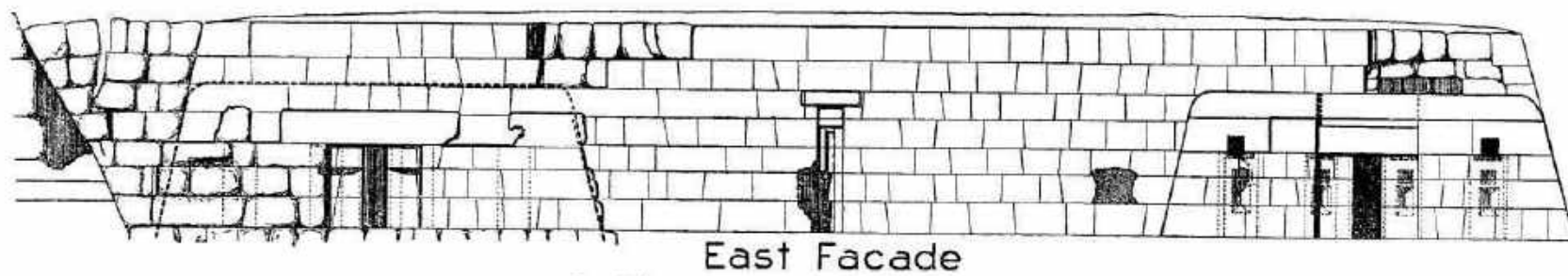
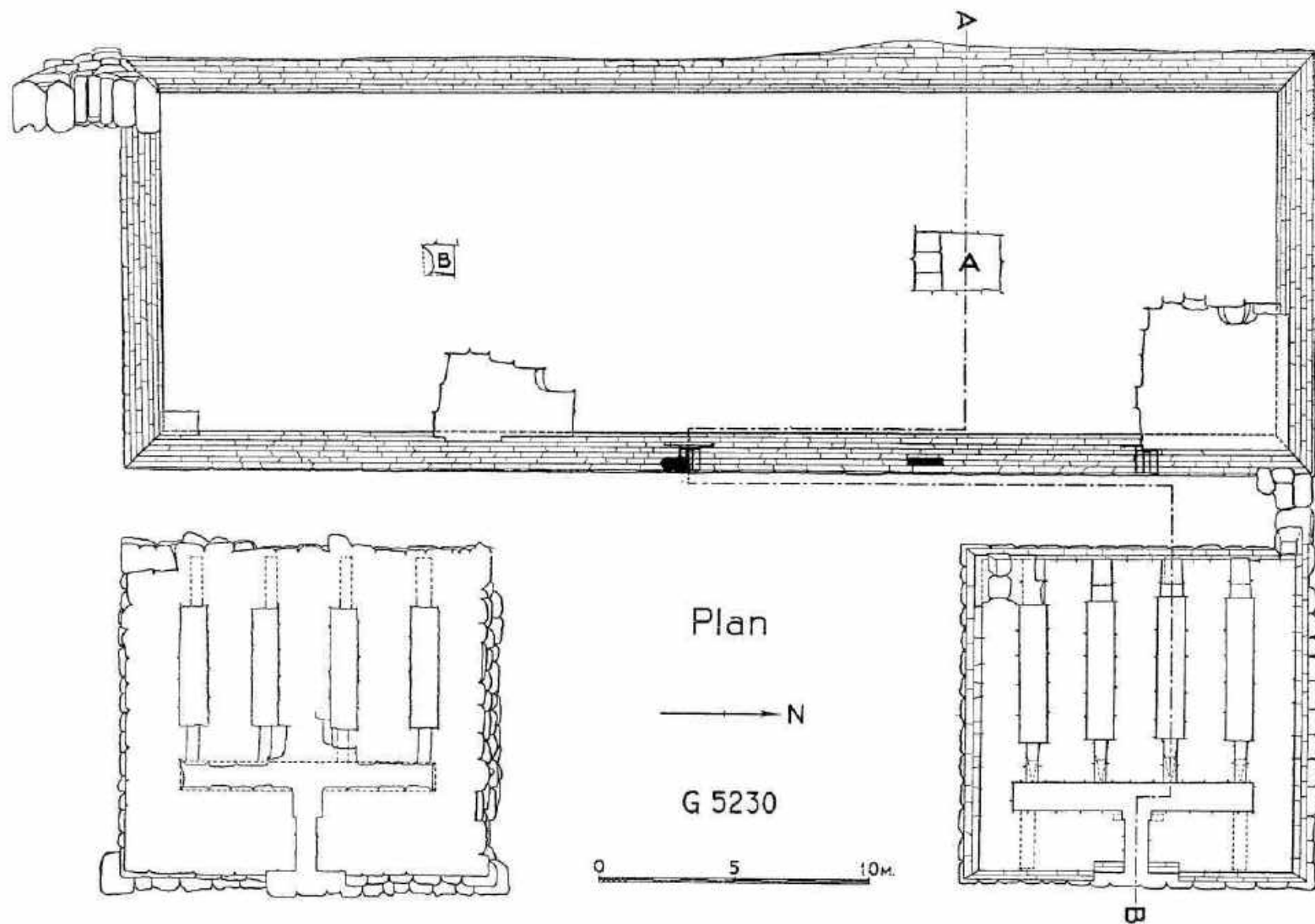
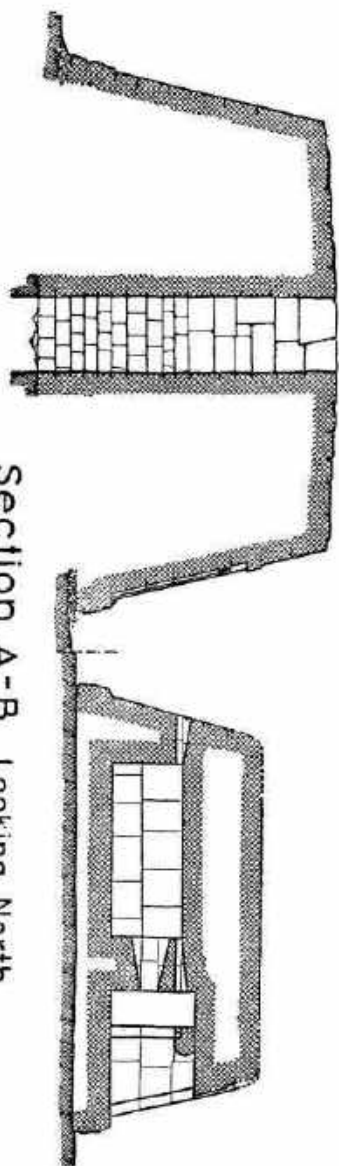


Fig. 153

At Giza the chapels of type (4 b) lack the distinctive north subsidiary niche in the façade of the mastaba and fall into two groups: (1) chapels in mastabas on independent sites which approximate to the chapels of types (3) and (4 a) in position, form, and relation, and (2) chapels also without the north subsidiary niche which are in mastabas attached to other mastabas and therefore of irregular form and relation.

(1) *Chapels of Type (4 b) in Mastabas on Independent Sites*

The most important chapels of type (4 b) are those in the mastabas built by the descendants of the Seshem-nofer family and the descendants of Kanofer of G 2150, east of the Cem. en Echelon in the Western Field. One of the last of these, G 5470 of Rawer II, contained a sealing of Isesy in a burial-chamber, and the whole of the seven mastabas in the group probably range from Neferirkara to Isesy. To these are added a few other mastabas of small size scattered in various parts of the Western Field. The examples excavated by us or reported by Junker are as follows:

- (1) G 5270: Rawer I, *sš ʿ nšwt hft hr, rh nšwt*; son of Seshem-nofer I (5080) and brother of Seshem-nofer III (5170); Junker.
Mastaba: type VIII a (2), without subsidiary north niche; area, 327.68 sq. m.; prop. 1/2.0; on independent site.
Chapel: type (4 b), of nummulitic limestone; 3.6 × 1.2 m.; area, 4.32 sq. m.; prop. 1/3.0; relation, 1/78.17; partly decorated.
Shafts: one large and at least two smaller shafts.
The two small exterior niches in the east face of the mastaba north of the chapel are neither representative of the large north subsidiary niche, but appear to have been cut later as offering-places for the small shafts.
- (2) G 5280: Peh-n-Ptah, *rh nšwt, sš ʿ n nšwt*; son of *rht nšwt 'Imn-dfj-s* and Seshemnofer II (4940), cousin (?) of Rawer I.
Mastaba: type VIII b (2); without subsidiary north niche; area, 206.8 sq. m.; prop. 1/1.81; on independent site.
Chapel: type (4 b), of nummulitic limestone; 3.0 × 0.8 m.; area, 2.4 sq. m.; prop. 1/3.75; relation, 1/86.17; inscribed cross-bar on south niche; serdab with three statuettes.
Shafts: thirteen shafts, mostly of type B; chief shaft I, type (5 a).
- (3) G 5370: Zaty, *wr mđ šmʿw, imy-rj kst*; probably son or brother of Rawer I; Junker.
Mastaba: type VIII a, without subsidiary north niche; area, 224.72 sq. m.; prop. 1/2.0; on independent site.
Chapel: type (4 b), of nummulitic limestone; 4.6 × 1.6 m.; area, 7.36 sq. m.; prop. 1/2.87; relation, 1/30.53; unfinished decoration.
Shafts: one or more.
- (4) G 5470: Rawer II, *imy-rj sš sšb, hm ntr Mxct, sšb ʿd-mr, hry ššt n wdʿ mdw št n ht wrt*; probably son or brother of Zaty; Junker and LG 32.
Mastaba: type VIII a, without subsidiary north niche; area, 118.4 sq. m.; prop. 1/2.16; on independent site.
Chapel: type (4 b), with one niche in middle of west wall; 3.14 × 1.56 m.; area, 4.89 sq. m.; prop. 1/2.01; relation, 1/24.21; partly decorated; of nummulitic limestone; also exterior chapel with serdab.
Shafts: one large shaft and one intrusive shaft; in chief shaft, sealing of Isesy.

- (5) G 2337: no name; probably related to Seshem-nofer family.
 Mastaba: type VIII a (1); without north subsidiary niche; area, 90.4 sq. m.; prop. 1/1.41; on independent site.
 Chapel: type (4 b), of nummulitic limestone, destroyed to first course; 1.95 × 0.8 m.; area, 1.56 sq. m.; prop. 1/2.43; relation, 1/57.3; serdab empty.
 Shafts: four shafts in mastaba; chief shaft A, type 4 a (4).
- (6) G 5340: Ka-seza, *imy-rs wpwt, mdw Kt-hd, smr, hrp r*; son of Kanofer (G 2150); LG 37; on independent site.
 Mastaba: type VIII a (1) with addition on south containing a serdab; area of nucleus mastaba, 392.0 sq. m.; prop. 1/2.0; final mastaba area, 459.2 sq. m.; prop. 1/2.34; without subsidiary north niche.
 Chapel: type (4 b), of nummulitic limestone; 4.0 × 1.6 m.; area, 6.4 sq. m.; prop. 1/2.5; relation, 1/61.27; decorated chapel; long E-W serdab in construction added on south.
 Shafts: two in N-S axis of nucleus and others in serdab addition.
- (7) G 5350: built against the north end of G 5340; probably belonging to member of family of Ka-seza; Junker.
 Mastaba: type VIII a (1), without subsidiary north niche; area, 360.68 sq. m.; prop. 1/1.78.
 Chapel: type (4 b), of nummulitic limestone; 4.8 × 2.0 m.; area, 9.6 sq. m.; prop. 1/2.4; relation, 1/37.45; partly decorated (?); long E-W serdab behind south wall of offering-room.
 Shafts: one or more shafts in mastaba.

In the Cems. 1000–1100 six chapels of type (4 b) stand south and east of the large mastaba G 1020 with chapel of type (4 a). These mastabas form the basic network of the area between G 2000 and G 1201, and are therefore to be dated earlier than Neueserra.

- (8) G 1024: mastaba: type VII b (1); area, 48.8 sq. m.; prop. 1/1.96; chapel: type (4 b), of nummulitic limestone; upper part destroyed; shafts, three shafts of types 6 b (2), 6 a (2), and 7 x:
 (a) 3.3 × 1.3 m.; area, 4.29 sq. m.; prop. 1/2.54; relation, 1/13.7.
- (9) G 1031: mastaba: type VII a (1); area, 82.96 sq. m.; prop. 1/1.79; chapel: type (4 b), of nummulitic limestone; upper part destroyed; shafts, five shafts, chief shaft of type 6 b (1); no serdab:
 (a) 2.5 × 1.0 m.; area, 2.5 sq. m.; prop. 1/2.5; relation, 1/33.18.
- (10) G 1044: mastaba: type VII a (1); area, 76.88 sq. m.; prop. 1/2.0; chapel type: (4 b), of nummulitic limestone; upper part destroyed; shafts, four shafts (small); no serdab:
 (a) 2.65 × 1.0 m.; area, 2.65 sq. m.; prop. 1/2.65; relation, 1/29.01.
- (11) G 1027: mastaba: type VII b (2); area, 60.75 sq. m.; prop. 1/2.08; chapel: type (4 b); partly destroyed, no decoration; shafts, four shafts, chief shaft, type 4 b (lx); serdab behind south niche with weathered basis of limestone statuette:
 (a) 2.6 × 1.0 m.; area, 2.6 sq. m.; prop. 1/2.6; relation, 1/23.36.
- (12) G 1008: Shepseskaf-ankh, *nht hrw sb*; mastaba: type VII b (1); area, 33.48 sq. m.; prop. 1/1.5; chapel: type (4 b), with small niche cut in face of nummulitic limestone; partly inscribed; shafts, three shafts, chief shaft type 5 b (2); serdab behind place of south niche connected by slot; niche not cut:
 (a) 1.7 × 0.65 m.; area, 1.05 sq. m.; prop. 1/2.6; relation, 1/31.88.

- (13) G 1101: north end excavated by us and rest by Junker; mastaba: type VII b (2); area, 224.64 sq. m.; prop. 1/1.93; chapel: type (4 b), of nummulitic limestone; not decorated; shafts, excavated by Junker; no serdab:

(a) 3.08 × 1.3 m.; area, 4.0 sq. m.; prop. 1/2.36; relation, 1/56.16.

- (14) G 1360: mastaba: type VII a (1); area, 53.0 sq. m.; prop. 1/2.03; chapel: type (4 b), of nummulitic limestone, partly destroyed; shafts, four shafts; chief shaft of type 5 a (2); serdab north of chapel:

(a) 2.5 × 1.0 m.; area, 2.5 sq. m.; prop. 1/2.5; relation, 1/21.2.

Other chapels of similar forms occurred in isolated mastabas as follows:

- (15) G 4712: Queen Ni-ma'at-hap: *mnt Hr Stḥ wrt ḥtś*.

Mastaba: type VIII c (1), without subsidiary north niche; area, 70.63 sq. m.; prop. 1/1.81; on independent site with G 4714 built in front of it.

Chapel: one-niched chapel of type (4 b), of nummulitic limestone; one niche in south end of west wall (cf. type (3 a)); 2.5 × 1.25 m.; area, 4.38 sq. m.; prop. 1/2.8; relation, 1/16.1; south niche, tablet, and cross-bar decorated; exterior roofed corridor between 4712 and 4714.

Shafts: one shaft in axis north of middle.

- (16) G 4714: Princess Nefer-hetepes, *srt nṣwt nt ḥt-f*; LG 48.

Mastaba: type VIII c; on independent site; area, 83.75 sq. m.; prop. 1/1.87; without exterior north subsidiary niche.

Chapel: type (4 b), with two niches of nummulitic limestone; 2.5 × 1.4 m.; area, 3.5 sq. m.; prop. 1/1.79; relation, 1/23.93; not decorated, but doorway drum recorded by Lepsius; exterior c.b. chapel of type (1 g).

Shafts: two shafts: A, chief shaft, NW of chapel; B, small shaft south of A.

These two chapels, in tombs of ladies of the royal family, cannot be dated exactly, but were probably of the first half of Dyn. V. The survival of the chapel form in these mastabas was to be expected. One other chapel of type (4 b) was in a mastaba on an independent site and was probably previous to Unis, last king of Dyn. V.

- (17) G 2415: Weri and his wife Meti; behind the north end of the Senezem-ib complex among the last mastabas in the group partly overbuilt by mastabas of the Senezem-ib complex.

Mastaba: type VIII b (2); on independent site; area, 46.59 sq. m.; prop. 1/1.56; without subsidiary north niche.

Chapel: type (4 b), with two niches; nummulitic limestone; 3.0 × 1.1 m.; area, 3.3 sq. m.; prop. 1/2.72; relation, 1/14.1; both niches decorated; serdab on north with seven limestone statuettes and traces of four decayed wooden statuettes.

Shafts: six shafts in mastaba.

(2) Chapels of Type (4 b) in Small Mastabas Secondary to Other Mastabas

The above seventeen chapels might be mistaken for chapels of type (3 a) or (4 a). There are six other chapels in mastabas secondary to other mastabas which are of more doubtful character because of the position of the chapel in the mastaba and its relation to the mastaba.

- (18) G 4241: built between north end of G 4240 (Prince Sneferuw-seneb) and G 4250 (probably also of the royal family).

Mastaba: type VIII c (1); area, 47.63 sq. m.; prop. 1/0.85; with chapel in NE corner and small exterior niche south of chapel.

Chapel: type (4 b), of nummulitic limestone; in NE corner of mastaba, with one niche in the middle of the west wall; 2.15×1.1 m.; area, 2.37 sq. m.; prop. 1/1.96; relation, 1/20.97; length of chapel about one-third of length of mastaba; not decorated.

Shafts: four shafts, excavated by Junker.

- (19) G 4341: built against the east face of G 4340 (probably member of royal family).

Mastaba: type VIII b; without subsidiary exterior niche; area, 73.2 sq. m.; prop. 1/4.5.

Chapel: type (4 b), of nummulitic limestone; near middle of mastaba; 3.72×1.42 m.; area, 5.28 sq. m.; prop. 1/2.42; length of chapel less than one-fourth of length of mastaba; relation, 1/14.55; not decorated, probably with two niches in west wall.

Shafts: two shafts, A south of chapel and B north; A of type 4 c (4).

- (20) G 1411: built against the east face of G 1412 (probably of early Dyn. V).

Mastaba: type VIII b (1), with east wall of z-masonry; with small subsidiary niche south of chapel; area, 29.4 sq. m.; prop. 1/1.66.

Chapel: type (4 b), of nummulitic limestone; two niches in west wall; 2.45×0.9 m.; area, 2.2 sq. m.; prop. 1/2.72; relation, 1/13.36; not decorated; length of chapel about one-third of that of mastaba.

Shafts: five shafts in N-S row west of chapel and one north of chapel; chief shaft east, north of chapel, type 5 c (2), on west.

- (21) G 2156: Kaninesuwt II; built against the east face of G 2155; Junker, *Gisa*, II, p. 135.

Mastaba: type VIII c (2); without subsidiary exterior niche; area, 27.75 sq. m.; prop. 1/2.42.

Chapel: type (4 b), of nummulitic limestone, with two niches in west wall; 3.4×1.3 m.; area, 4.42 sq. m.; prop. 1/2.61; relation, 1/6.73; length of chapel less than half that of mastaba.

Shafts: one shaft south of chapel.

- (22) G 1102: nucleus mastaba on independent site with additions on north and east.

Mastaba: nucleus type, type VIII b (2); without subsidiary north niche; area, 23.12 sq. m.; prop. 1/2.16; final area, 50.97 sq. m.

Chapel: type (4 b), of nummulitic limestone; one niche in south end of west wall; length of chapel about one-third of that of mastaba; 2.2×1.0 m.; area, 2.2 sq. m.; prop. 1/2.2; relation, 1/23.16; not decorated; exterior corridor vestibule.

Shafts: two shafts in nucleus; chief shaft on south, type 4 bx.

- (23) G 1315: on higher level over SW corner of G 1161.

Mastaba: type VIII c (1), without subsidiary exterior niche; area, 27.2 sq. m.; prop. 1/1.7.

Chapel: type (4 b), of nummulitic limestone; with no niches preserved; 2.35×1.0 m.; area, 2.35 sq. m.; prop. 1/2.35; relation, 1/11.7; length of chapel less than half of that of mastaba; nearly destroyed.

Shafts: five shafts, chief shaft C, type 5 c (5).

Three of these chapels (Nos. 18–20) are probably previous to Neferirkara. Two of these have a small exterior niche south of the chapel (Nos. 18 and 20), not a large north niche so typical of the mastabas with chapels of type (3) and (4 a). Nos. 21 and 22 are probably from the middle of Dyn. V. No. 23 is

probably also from Dyn. V, but it may have been an accidental modification of type (5). Two of these chapels, Nos. 18 and 22, had only one niche. In Nos. 19 and 23 the niches were destroyed, but the rest, Nos. 20 and 21, had two niches.

(3) *Summary of Chapels of Type (4 b)*

The group of chapels of type (4 b) shows a gradual degeneration of older chapels of types (3) and (4). The more pronounced degeneration shown by Nos. 18–23 was probably due to the influence of the chapels of type (5). To this may be ascribed the omission of the north subsidiary niche, the use of chapels with one niche, and the relations. The position of the chapel in the mastaba may also have been affected by those of type (5), but on the other hand, many of the mastabas (Nos. 18–23) were crowded into spaces between older mastabas and the plan of the mastaba with its chapel had to be adapted to the space available. In this way the chapel often occupied an unusual position in the mastaba. The chapels Nos. 1–17 were mostly in large mastabas built on independent sites, and these show the nearest approximation in the form and position of the chapel to those of the earlier chapels.

The size of the mastabas was always an important factor in the selection of the type of chapel. Immediately after Neferirkara and before the reign of Neueserra, chapels of type (5) had been introduced at Giza, but all the examples excavated by us were in small or medium-sized mastabas, and the occurrence of type (5) was confined to such mastabas throughout their use at Giza. In the reign of Neueserra (or more probably shortly after that reign) the E–W offering-room was introduced and led to the development of the two-roomed and multi-roomed chapels of types (7 b)–(7 d). Thus, in Dyn. V we have:

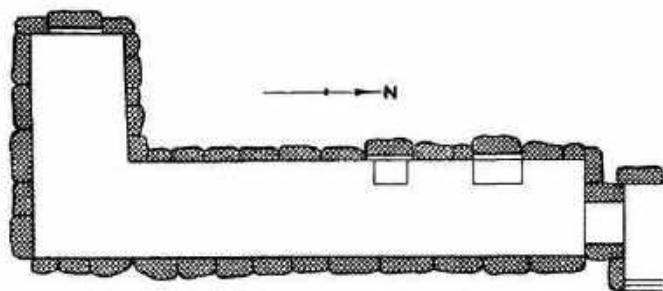
- (a) Large mastabas with chapels of type (4 a).
- (b) Large and small mastabas with chapels of type (4 b).
- (c) Medium and small mastabas with chapels of type (5), and the related types (8) and (9).
- (d) Large, medium, and small mastabas with chapels of type (7).

The term 'large mastaba' is defined as a mastaba with an area of over 100 sq. m. In Dyn. V those with chapels of type (4 b) (see list, Nos. 1–17) include the greater part of the mastabas of that period. The four large nucleus mastabas in the Shepseskaf-ankh complex had originally only two interior chapels both of type (4 a). The other large mastabas almost always contained chapels of type (7), and the largest mastaba, that of Senezem-ib-Yenti with an area of 476.52 sq. m., was dated to the reign of the last king of Dyn. V. The facts show that in the middle of Dyn. V the traditional forms of the transition period from Dyn. IV to Dyn. V were still maintained in the large mastabas made for the descendants of the owners of the large mastabas of the transition period, but were gradually degenerating. Contemporary with the mastabas with chapels of type (4 b), the medium and small mastabas commonly contained chapels of the related types (5), (8), and (9). It is to be noted that wherever mastabas with chapels of types (5), (8), or (9) were in contact with or in proximity to mastabas with chapels of type (4 a) or (4 b), the former were later in date than those with chapels of type (4). For example, G 1026 with a chapel of type (5) was built against and around the north end of G 1008 with a chapel of type (4 b). Similarly, G 1016 with a chapel of type (5 a) was built against the southern end of G 1020 with a chapel of type (4 a), and G 1151 with a chapel of type (5 c) was built against the back of G 1101 with a chapel of type (4 b). It appears, therefore, that in general the chapels of type (5) are later than those of (4 a) and (4 b). The chapels of type (4) continued in use to after the accession of Isesy (see G 5470). The earliest chapel of type (5) was made in the reign of Weserkaf (see G 4631). In the latter part of Dyn. V, probably after Neueserra, the type (7) was introduced and became prevalent for large and medium mastabas thereafter down to the end of Dyn. VI. Contemporary with chapels of type (7), the types (10) and (11) were introduced and used for

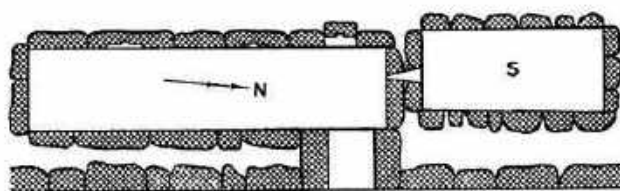
medium and small mastabas. The prevailing chapel types in Dyn. VI were (5), (8), (9), (7), (10), (11), and the complex chapels of type (12).

d. Chapels of Dyns. V–VI: Types (5), (7)–(13)

The chapels of types (1)–(3) and RC i are essentially of Dyn. IV, but continue into Dyn. V. Type (4 a) begins in Dyn. IV, but reaches its maximum frequency in the transition period from Dyn. IV to V. The rock tombs of types RC iii–vi were used after Dyn. IV. There remain a great number of chapels of types (5), (7), (13) which were the predominant forms in the mastabas of Dyns. V and VI. A few of these (one of type (5) and one of type (13)) are to be dated to Dyn. IV, but the types as a whole are characteristic of Dyns. V–VI, and are here described as of that period.



Plan
Fig. 154. G 1204



Plan
Fig. 155. G 1029

(1) Mastaba Chapels of Type (5)

The L-shaped chapel of types (3) and (4) lies in the SE corner of the mastaba, which is in effect a two-niched mastaba with the chief, the southern, niche withdrawn within the mastaba. Its length is only a fraction of that of the mastaba, and the relation of its floor area to the area of the mastaba is very large, ranging from $1/300$ in large mastabas to $1/20$ in small mastabas. Thus its position and its relation correspond to those of the cruciform chapels of Saqqarah, and, like these chapels of the same period (Dyn. IV), it has the subsidiary northern niche of the two-niched mastabas built or cut in the façade of the mastaba. The two-niched chapel of type (4) at Giza presented in its west wall a reduction in length of the façade of the two-niched mastaba, but was, like the one-niched chapel, still accompanied by the subsidiary northern niche in the façade. All these early L-shaped chapels were of moderate size and present proportions averaging about $1/2.66$.

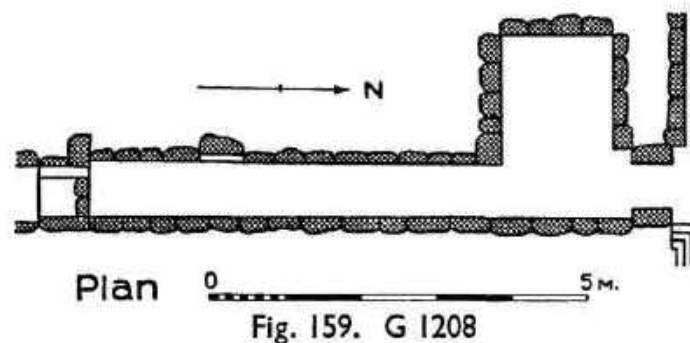
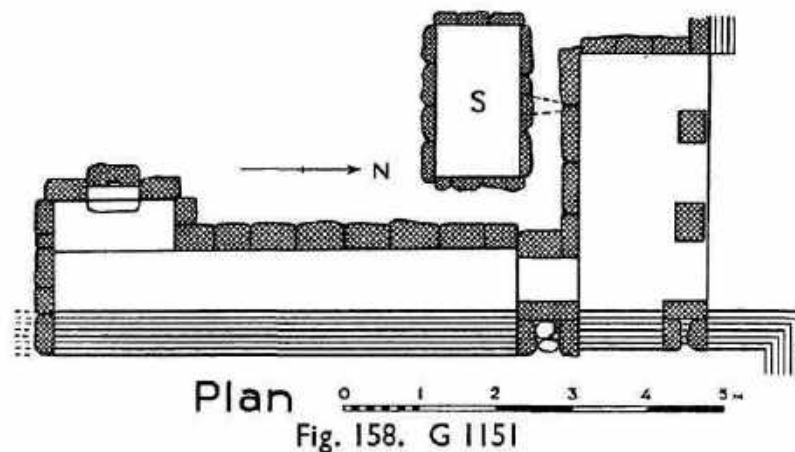
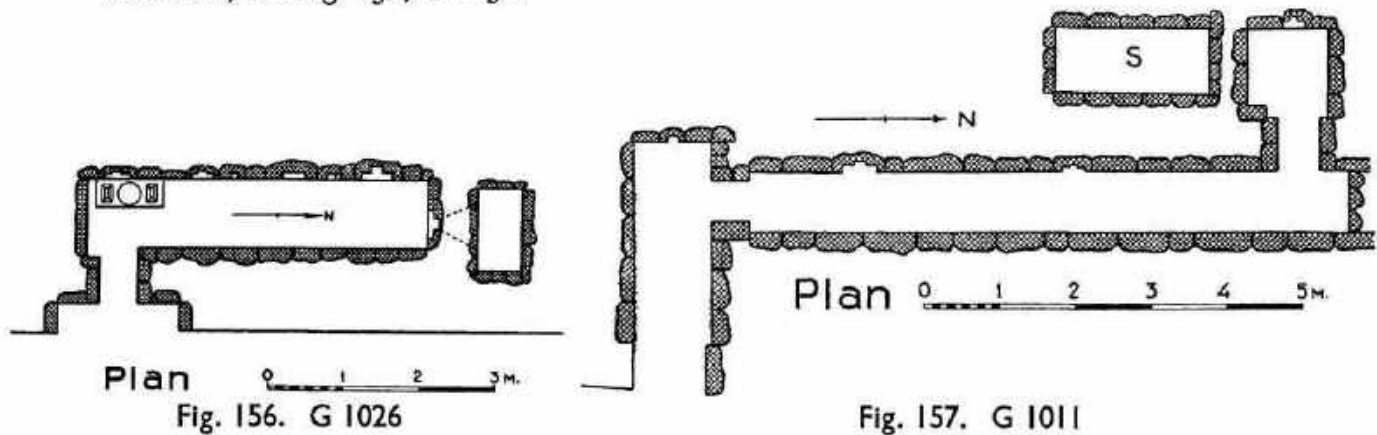
The chapels of type (5) lack the subsidiary north niche, and, being longer, present larger proportions, ranging from $1/3$ to $1/13$. With the increase in size, the relation of the floor area of the chapel to the area of the mastaba also decreases, ranging from $1/3$ to $1/20$. The chapels at Giza are generally of the corridor type with the whole façade of the mastaba represented in the west wall of the chapel. The idea of representing both niches of the two-niched mastaba in the west wall of the chapel was introduced in various types of chapels in Dyn. IV, as has been explained in the preceding section, and it finally came into general use in the L-shaped chapels of type (4 a). It was inevitable that once this idea became operative the tendency would be towards lengthening the chapel to accord with the actual façade of the mastaba. The Saqqarah form of chapel type (4 b) was obviously the result of this tendency.

The chapels of type (5) present a number of variations based on the form of the mastaba façade represented by its west wall, as follows:

Type (5 a): the normal mastaba façade with two niches, two or more pairs of niches, or with irregular niche-work of Dyns. V–VI; see Fig. 154, G 1204, north chapel; Fig. 155, G 1029; Fig. 156, G 1026.

Type (5 b): with one or two niches in the west wall, and at the north end a small one-niched interior chapel (like type (10 a)); see Fig. 157, G 1011.

Type (5 c): corridor with a deep recess or alcove in the southern end of the west face, and a variable number of other niches or no niche in the west wall; the deep recess or alcove has a stela in its west wall; see Fig. 158, G 1151.



Type (5 d): with an alcove opening westwards in the northern end of the west wall and one or more niches in the rest of the wall; see Fig. 159, G 1208, north.

Type (5 e): a corridor chapel of any of the above forms, but usually of type (5 a), which has at the southern end an alcove opening eastwards.

The corridor chapel was used most frequently for two-shaft or multiple-shaft mastabas. The general principle appears to be that a chapel has a niche or a pair of niches for each of the chief shafts in the mastaba, but occasionally there is only one niche in a multiple-shaft mastaba, or the place of a second niche is taken by the window slot of a serdab. The function of the niche-work was to provide one or more

ka-doors for the use of the *ka* or *kas* in the mastaba and the arrangement was left to the arbitrary decision of the owner, who was influenced more or less by previous practice in chapels of types (3) and (4). The other variations probably arose from the influence of other types and may in part have been suggested by the rock-cut tombs of type RC (i c and d). The narrow width of the mastaba corridor and the small size of the alcove would have been necessitated by the length of the stone roofing slabs. Type (5 e) with its eastern alcove was obviously affected by the exterior corridor chapels of type (8), in which the eastward alcove on the south was a natural result of the setting of the mastaba with relation to the mastaba in front of it. At the time of which we are speaking, Dyns. V–VI, examples of all the older types (types (1), (2), (3), and (4)) were to be seen in the old cemetery and chapels of types RC (ii)–(vi) and types (5–8) were being made simultaneously in the necropolis. The person for whom each chapel was constructed and certainly the craftsmen he employed were familiar with a great variety of chapels and, being free within certain functional limits in the choice of the chapel design, were without doubt influenced by the other chapels in the necropolis.

(a) *Chapels of type (5 a).*

Plain interior corridor chapel with one or more niches in west wall.

Examples:

(1) G 4000: Prince Hemyuwen; mastaba finished as type VIII x.

Chapel: type (5) with two niches (chief niche on north); entrance at south end of east wall; exterior c.b. chapel; 36.9×1.56 m.; area, 57.56 sq. m.; prop. 1/23.65; relation, 1/24.74; decorated (decorations probably not completed), nearly destroyed; see Fig. 121.

This is the only corridor chapel belonging to any of the nucleus mastabas. The rest are all in outlying mastabas.

No.	Mastaba		Chapel		NS \times EW	Area	Prop.	Entrance	
	area	pits serdab	niches					from	Relation
(1) G 4411	39.41	1 1 WS	2		$2.2 \times 1.01 = 2.26$	1/2.21	E at N end		1/17.43
(2) G 1152	30.64	4 1	..		$4.2 \times 1.05 = 4.41$	1/4.0	E near middle		1/6.65
(3) G 1012	93.0	8 1 S	2		$5.2 \times 0.6 = 3.12$	1/8.65	E near N		1/29.80
(4) G 1204	63.25	6 no	2		$2.0 \times 1.0 = 2.0$	1/2	N		1/31.62
N chapel									
(5) G 3008	61.91	4 ..	2		$7.4 \times 1.2 = 8.28$	1/6.17	N		1/7.47
(6) G 1029	60.69	4 1 N	3		$4.7 \times 1.05 = 4.93$	1/4.57	E at N		1/12.33
(7) G 1016	54.12	6 1 NW	2		$7.1 \times 0.85 = 6.03$	1/8.35	E at S		1/8.99
(8) G 1220	54.12	2 no	1 S		$2.9 \times 1.2 = 3.48$	1/2.42	S		1/15.55
(9) G 1026	46.8	5 1 N	6		$4.5 \times 0.9 = 4.05$	1/5.0	E at S end		1/11.55
(10) G 1691	40.2	4 no	2		$4.0 \times 0.95 = 3.8$	1/4.21	N		1/10.57
(11) G 1158	35.62	3 ..	1?		$3.7 \times 1.35 = 4.99$	1/2.74	N		1/7.13
(12) G 1234	34.02	2 1 W	1 S		$4.85 \times 1.2 = 5.82$	1/4.04	N		1/5.84
(13) G 1171	31.08	4 ..	2		$4.1 \times 1.4 = 6.72$	1/3.43	N		1/4.62
(14) G 1681	30.4	4 ..	2?		$2.4 \times 0.8 = 1.92$	1/3.0	N		1/15.83
(15) G 1310	29.25	1 no	?		$2.9 \times 1.2 = 3.48$	1/2.42	E at N		1/8.40
(16) G 1202	27.3	4 no	?		$4.1 \times 0.95 = 3.89$	1/4.31	N		1/7.01
(17) G 1368	21.9	3 no	3		$3.5 \times 1.1 = 3.85$	1/3.18	E at N		1/5.68

No.	Mastaba			Chapel		Area	Prop.	Entrance	
	area	pits	serdab	niches	NS×EW			from	Relation
(18) G 3090	20.44	3	no	1 N	6.0×0.6 = 3.6		1/10.0	S	1/5.67
(19) G 1032	20.2	5	no	2?	2.1×1.0 = 2.1		1/2.1	E at N	1/9.61
(20) G 1019	14.75	3	no	2?	3.9×0.95 = 3.7		1/4.1	E at N	1/3.98
(21) G 1013	11.9	2	no	2?	2.9×1.0 = 2.9		1/2.9	N	1/4.10
(22) G 1170	26.18	3	no	4	5.55×0.75 = 4.16		1/7.4	N with 2	1/6.29
Total 7.41 sq. m.								ext. rooms	
(23) G 4814	ruined	1	..	1	2.4×1.0 = 2.4		1/2.4	E at N	
(24) G 4651	..	..	..	..	..	..	..	E at N	
(25) G 4861	..	..	..	2	..	..	..	from N	
(26) S. H., Giza, I, Fig. 161	..	2	..	3	6.15×0.9 = 5.54		1/6.83	from N	
(27) S. H., Giza, I, Fig. 166	97.94	2	1	2	9.3×1.15 = 10.69		1/8.08	from N	1/9.16
(28) S. H., Giza, I, Fig. 147	8.2?	3	..	2	4.3×1.95 = 8.38		1/2.2	E at S	1/0.97
(29) Junker, N of G 2155	51.24	2	no	1	2.9×1.2 = 3.48		1/2.41	E at N	1/3.28
					vestibule 3.0×4.05 = 12.15				

(b) *Chapels of type (5 b).*

Interior corridor chapel with small interior one-niched chapel at north end of west wall.

(1) G 1011	70.4	5	1	2	7.9×0.8 = 6.32		1/9.87	S with E-W	1/9.55
					1.05×1.0 = 1.05		1/1.05	vest. corr.	
(2) G 1010	14.25	2	no	1	4.2×0.55 = 2.31		1/7.64	N in vest. of	1/4.39
								G 1011	
					0.85×1.1 = 0.93		1/0.77		

(c) *Chapels of type (5 c).*

With deep recess or alcove, opening westwards at south end of west wall; stela in west end of recess.

The corridor with deep recess is related to type (7 b), but has no doorway at south end of the N-S corridor. It also has some relation to type (10) with a square room with one or two niches approached by a long N-S corridor. The recess in type (5 c) varies considerably in size, and in the examples with the largest recesses the form can hardly be distinguished from type (7 b). The examples of type (5 c) are as follows:

(1) G 4631	115.5	8	no	6?	14.9×0.8 = 11.92		1/18.63	S	1/9.61
(2) G 1151	52.5	2	1	1	6.1×0.8 = 4.88		1/7.62	N in pill.	
					1.6×0.7 = 1.12		1/2.28	portico	1/8.74
(3) G 1204 S	63.25	6	no	3	6.05×1.3 = 7.86		1/4.65	N beside N	
					1.3×1.7 = 2.21		1/0.76	chapel	1/6.28
(4) G 1211	40.3	4	1	2	4.8×0.9 = 4.32		1/5.33	S	1/8.19
					0.8×0.75 = 0.6		1/1.09		
(5) G 4611	109.2	?	1	2	9.4×1.4 = 13.16		1/6.71	E at S	1/8.3
(6) S. H., Giza, I, Fig. 171		3	1	1	6.4×0.95 = 6.08		1/6.74	E(m): sub. S niche	

(d) Chapels of type (5 d).

With alcove in west wall of corridor at north end.

No.	Mastaba			Chapel		Area	Prop.	Entrance from	Relation
	area	pits	serdab	niches	NS × EW				
(1) G 1208 N	71.07	8	no	1	7.2 × 0.7	5.04	1/10.3	N: see S chapel	1/9.36
(2) G 1103	16.8	3	no	2	1.5 × 1.7	2.55	1/0.88	E at S	1/8.03
					2.1 × 0.8	1.89	1/2.62		
					0.8 × 0.25	0.2	1/3.2		
(3) G 4561	..	..	..	1 (W) 1 (alc)	..	..	..	from N	

(e) Chapels of type (5 e).

Corridor of type (5 a) with alcove in E wall on the southern end.

(1) G 3011	62.4	7	1	2	7.8 × 1.1	8.58	1/7.1	E at N, with	
					2.1 × 2.1	4.5	1/1.0	E-W vest. corr.	1/4.77

This form is obviously derived from the form of the exterior chapel of type (8 a-d), with east alcove.

(2) For chapels of type (6) see pp. 247-249, above.

(3) The Interior Mastaba Chapel of Type (7): E-W Offering-room

The distinguishing mark of the chapel of type (7) is the E-W offering-room with one niche (rarely two niches) in the narrow west wall. The E-W offering-room first appears in the outer offering-place of the pyramid temples of Dyn. IV, where it represents the inner niche of the *ka*-door, or more properly of the simplified great door. In the Valley Temple of Chephren, and in both the Valley and the Pyramid Temples of Mycerinus, the E-W offering-room opens in the middle of a N-S pillared portico or hall. In the two Mycerinus temples this portico is in the western side of a great open court with panelling around its sides. In the Chephren Valley Temple the E-W room opens from a N-S hall. In the Chephren Pyramid Temple the outer offering-place consists of five E-W rooms, opening on a narrow N-S corridor which is the western arm of the corridor which surrounds the great open court with its twelve statues of Chephren.

The E-W offering-room appears in pyramid temples of Dyn. V as an inner offering-room with asymmetrical approach. It lies in the E-W axis of the pyramid with its west end against the sloping face of the pyramid (see Borchardt, *Das Grabdenkmal des Königs Sahu-Rê*, Blatt 2, where he gives plans of the temples of Sahura, Neferirkara, and Neueserra).

At Giza, the E-W room with one or two niches in the west wall appears first in private tombs in the rock-cut tombs of type RC (i a) and (i b), but this type is probably based on the L-shaped chapel with exterior stone rooms, and may not be directly correlated to the E-W offering-rooms of the pyramids of Dyn. V. The earlier examples undoubtedly precede those pyramid chapels in date.

In the Giza mastabas the chapels of type (7) with E-W offering-room do not appear until after the reign of Neueserra, when they are by no means so numerous as chapels of types (5) and (8). An indication of the date of the introduction of type (7) is given by a comparison of the complexes of Shepseskaf-ankh (G 6010-6040), and of Senezem-ib = Yenti (G 2370-2387). The former is dated approximately to the time from Neferirkara to Neueserra and contains no elements associated with type (7). The

other complex, dated from the latter part of the reign of Isesi to the end of Dyn. VI, contains almost exclusively chapels of type (7). At Abusir, Borchardt found a small number of mastaba chapels in the cemetery attached to the pyramid of Neweserra. These are in general corridor chapels, but in the mastaba of Zaza-em-ankh (Borchardt, *Ne-user-Ré*, Pl. 22) the chapel consists of three parallel E-W rooms. The entrance in the E-W medial axis opens into an asymmetrical E-W vestibule corridor, from which two doorways, one in the east end of the north wall and the other in the east end of the south wall, open into single E-W offering-rooms with stela in the west wall. The northern was inscribed in the name of the husband and the southern in the name of the wife (a princess, daughter of Neweserra). This mastaba was erected late in the reign of Neweserra or more probably after that reign.

Many of the multiple-roomed chapels of both Giza and Saqqarah are designed with one or more E-W offering-rooms. But the smaller chapels, those with a single chamber and those with two rooms, vary in both form and frequency at the two sites. Subdividing type (7) to include the examples at both Saqqarah and Giza, the following variations are to be noted:

- Type (7 a): single E-W offering-room opening directly from the outside of the mastaba or by means of a long narrow connecting passage.
- (7 a 1): E-W offering-room in the SE corner of the mastaba and entered directly from the E; examples at Saqqarah.
 - (7 a 2): single E-W offering-room entered from the north or south by doorway in face of mastaba; two examples at Giza and one at Saqqarah.
 - (7 a 3): E-W offering-room in the SE corner of the mastaba but entered from the north by a long narrow corridor with its entrance in the north face of the mastaba or at the north end of the east wall; examples at Saqqarah only.
 - (7 a 4): E-W offering-room in other parts of the mastaba entered by long narrow corridor or passage; one example at Saqqarah.
 - (7 b): two-room chapel consisting of E-W offering-room and N-S room; the N-S room, also an offering-room, lies north or south of the east end of the E-W offering-room with its false-door stela. Common type at Giza; rare at Saqqarah.
 - (7 c): chapel with three or more rooms with a two-roomed nucleus similar to (7 b).
 - (7 d): multiple-roomed chapel with nucleus of one E-W offering-room and with one or more other rooms variously placed.
 - (7 e): complex chapel based on a cruciform nucleus consisting of an E-W offering-room opening in the middle of the west wall of a N-S hall.

The use of the E-W offering-room was probably established by the pyramid temples of the first half of Dyn. V. It was a little later than the introduction of the corridor chapel, which was the prevailing type for small mastabas of Dyns. V and VI. The two-room type may be based on the E-W room with asymmetrical approach in the pyramid temples of early Dyn. V, but it may have been influenced by the type RC (i). The type (5 c) with recess or alcove on the south presents a reduction of type (7 b), and the two are without doubt closely related, especially as some examples of type (7 b) have no door-jambs between the two rooms (see also (7 e)). The cruciform chapel type (7 e) is to be compared with the cruciform chapels of type RC (ii) but is distinguished from it by the E-W offering-room, and is therefore apparently a reversion to the form of the outer offering-place of the pyramid temples of Dyn. IV.

It has been said that the chapels of type (5) present an expansion of the relief scenes due to the influence of the rock-cut chapels at Giza. In type (7) this expansion of wall surface available for reliefs is

carried much farther and the complex chapels of that type range in floor area from $1/5$ to $1/10$ of the area of the mastaba. The chapels of type (5) range from $1/3$ to $1/31$ of the mastaba, and those of types (3) and (4) only from $1/20$ to $1/300$.

The list of chapels of type (7) at Giza (as far as now at my disposal) is as follows (and some examples from other cemeteries with running numbers in small Roman numerals):

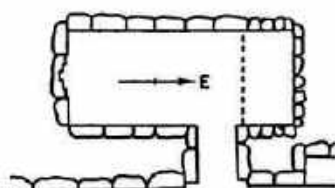
(a) *Chapels of type (7 a): with single E-W offering-room.*

(1) G 1313: *Iy-zefa, rh nswt, hry šst n pr . . . , hnty-š pr-r*; offering formula in the name of Osiris.

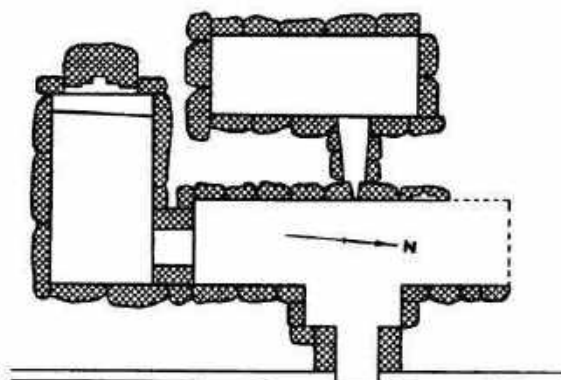
Mastaba type VIII (cl); area, 15.75 sq. m.; prop. 1/0.28.

Chapel, single E-W room entered from south at east end of south wall; 1.25×2.3 m.; area, 2.87 sq. m.; prop. 1/5.43; in west end a decorated false-door stela; decorated doorway; relation, 1/5.49.

See Fig. 160.



Plan 0 1 2 m.
Fig. 160. G 1313



Plan 0 1 2 3 m.
Fig. 161. G 1047

(2) G 2375 a: *Ankh-ir-Ptah, sb r Nhn*.

Mastaba type VIII c (1), built in the court of G 2375; area, 23.98 sq. m.

Chapel, E-W offering-room entered at east end of south wall; 1.4×3.3 m.; area, 4.62 sq. m.; prop. 1/0.42; relation, 1/5.19; in west end a monolithic stela against the façade of G 2375.

(b) *Chapels of type (7 b): two rooms, E-W offering-room and N-S offering-room.*

(1) G 1047: *Min-ankh, hm ntr Mn-krw-hr-ntry-šwt, hm ntr N-wsr-r-mn-šwt, imy-r nwt mwt*.

Mastaba type VIII c (2); area, 66.79 sq. m.; prop. 1/1.8.

Chapel, with E-W room entered at east end of north wall, with false-door stela in west end; 1.33×2.25 m.; area, 2.99 sq. m.; prop. 1/0.59.

(b) 3.4×1.1 m.; area, 3.74 sq. m.; prop. 1/3.09; with entrance from east near north end of east wall; with one niche in north end of west wall and serdab behind that wall with slot opposite entrance.

Total area, 6.73 sq. m.; three burial-places, one of type 9; relation, 1/9.93.

See Fig. 161.

(2) G 5234: east of G 5230 (Khnumbaf).

Mastaba type VIII c; 8.7×6.0 ; area, 52.2 sq. m.; prop. 1/1.45.

Chapel, of type (7 b):

(a) entered from north, near east end of north wall; 3.22×1.55 m.; area, 4.99 sq. m.; prop. 1/2.08.

(b) entered from east, near north end of east wall; 5.35×0.96 m.; area, 5.13 sq. m.; prop. 1/5.56.

Total area, 10.12 sq. m.; relation, 1/5.16.

With open court on east of mastaba containing sloping-passage tomb of type 9 and two small pits; serdab behind west wall of b.

(3) G 5235: north of G 5234.

Mastaba type VIII c; area, 57.6 sq. m.; prop. 1/1.6.

Chapel, two rooms of type (7 b) but without door-jambs between the two rooms:

(a) 1.45 × 3.25 m.; area, 4.71 sq. m.; prop. 1/2.24; with niche in west end and doorway (without jambs) in east end of north wall.

(b) 3.27 × 1.02 m.; area, 3.33 sq. m.; prop. 1/3.21; with entrance from east at north end of east wall; serdab at north.

Total area, 8.04 sq. m.; relation, 1/7.16.

Chief burial-place, sloping passage of type 9 opening in court.

(4) G 5330: Ihy; LG 41; south of G 5334.

Mastaba type VIII c; area, 250.27 sq. m.; prop. 1/1.81.

Chapel, two rooms of type (7) partly destroyed:

(a) 1.5 × 4.3 m.; area, 6.45 sq. m.; prop. 1/0.35; with shallow stela at west end (see *LD.* II. 88 a); entered at east end of north wall.

(b) 3.05 × 1.55 m.; area, 4.73 sq. m.; prop. 1/1.97; partly destroyed; entered from the east at north end of east wall; entrance on mastaba façade north of middle.

Total area of a and b, 11.18 sq. m.; relation, 1/22.39.

(5) G 4813.

Mastaba type VIII c; 10.2 × 7.4 m.; area, 75.48 sq. m.; prop. 1/1.38.

Chapel, two rooms of type (7 b):

(a) 1.6 × 3.5 m.; area, 5.6 sq. m.; prop. 1/0.49; with shallow false door at west; entered from north at east end of north wall.

(b) 6.5 × 1.15 m.; area, 7.47 sq. m.; prop. 1/5.65; with two monolithic stelae in west wall; entered from the north.

Total area, 13.07 sq. m.; relation, 1/5.77.

(6) G 4721: built against the south end of G 4730.

Mastaba type VIII c; area, 43.65 sq. m.; prop. 1/0.54.

Chapel, two rooms of type (7 b):

(a) 1.32 × 2.85 m.; area, 3.76 sq. m.; prop. 1/0.46; with false door in west end; entered from north at east end.

(b) 1.68 × 1.1 m.; area, 1.84 sq. m.; prop. 1/1.53; without niches; entered from east at north end; serdab behind west wall.

Total area, 5.60 sq. m.; relation, 1/7.79.

(7) G 5411: on independent site, on rock knoll at SW corner of First Pyramid.

Mastaba type VIII e-c; area, 78.1 sq. m.; prop. 1/1.55.

Chapel, two rooms of type (7 b):

(a) 1.5 × 2.52 m.; area, 3.78 sq. m.; prop. 1/0.68; with false-door stela at west end; entered from north in east end of north wall.

(b) 6.4 × 1.0 m.; area, 6.4 sq. m.; prop. 1/6.4; probably with one niche in west wall at north; one serdab; entered from east in north end of east wall.

Total area, 10.18 sq. m.; relation, 1/7.67.

- (8) G 5340: Prof. Junker; north of No. 2 above.
 (9) A mastaba between G 5140 and G 5240; Prof. Junker.
 (10) G 2401: on independent site.

Mastaba type VIII v (1); area, 103.74 sq. m.; total area, 135 sq. m.

Chapel, two rooms of type (7 b):

(a) 1.7×5.1 m.; area, 8.67 sq. m.; prop. 1/0.33; entered from (b) by doorway (without jambs) in east end of north wall.

(b) $c. 6.0 \times 1.1$ m.; area, $c. 6.0$ sq. m.

Total area, 14.67 sq. m.; relation, 1/9.20.

Entered from east by doorway near north end of east wall.

(c) *Chapels of type (7 c): two-roomed nucleus like (7 b) with other rooms.*

- (1) G 2370: Senezem-ib = Yenti; end of Dyn. V.

Mastaba type VIII a; area, 476.52 sq. m.; prop. 1/1.09.

Chapel; type (7 c); with N-S anteroom, great pillared hall, and small portico; all wall spaces decorated except great hall of pillars.

(a) 2.05×6.35 m.; area, 13.02 sq. m.; prop. 1/0.32; with elaborate false-door stela in west end.

(b) 4.72×1.55 m.; area, 7.32 sq. m.; prop. 1/3.05; with two niches in west wall and serdab behind west wall with two slots; entered from east at north end of east wall.

(c) 3.7×1.55 m.; area, 4.73 sq. m.; with outer entrance from east at north end and doorway to pillared hall (d) at north end.

(d) pillared hall; 5.57×10.70 m.; area, 59.60 sq. m.; eight pillars in two E-W rows of five each; with large serdab west of west wall with three slots.

(e) portico with two columns; 6.25×1.9 m.; area, 11.88 sq. m.

Total floor area, 96.55 sq. m.; relation, 1/4.93.

On the east is a great stone-paved court around and in which were built the later mastabas of the family: this court opened on the east by a passage doorway sloping down to the ground in front; the burial-place of Senezem-ib = Yenti was a sloping passage of type 9 with opening under a wall of the court north of the outer entrance.

See Fig. 162.

- (2) G 5520 = G 2342 (= LG 28): S-ankh-n-ptah; on independent site built on debris south of Senezem-ib = Yenti.

Mastaba, a nucleus of type VIII c (2); area, 62.7 sq. m.; prop. 1/2.0; with interior chapel of type (5); increased by an addition on east containing a chapel of type (7 c) and a serdab; total area, 123.21 sq. m.

Chapel, four rooms:

(a) original chapel of type (5); $c. 7.2 \times 1.6$ m.; area, 11.52 sq. m.; prop. 1/4.5; relation, 1/5.44.

(b) N-S hall in front of doorway to (a), connecting it with exterior chapel; 5.5×2.0 m.; area, 11.0 sq. m.; entered from (c) by two doorways, one in each end of east wall.

(c) long narrow N-S vestibule corridor, entered from east; 7.0×1.18 m.; area, 8.26 sq. m.; two doorways to (b) in west wall; doorway to (d) in south wall; the east wall north of the entrance lined with white limestone.

- (d) E-W offering-room, with false-door stela in west end lined with white limestone; 1.35×3.3 m.; area, 4.45 sq. m.; prop. 1/0.4; entered by doorway in east end of north wall.

Total area of (b)–(d), type (7 c), 27.15 sq. m.

Total area of both chapels, rooms (a)–(d), 38.67 sq. m.; relation, 1/3.18.

See Fig. 163.

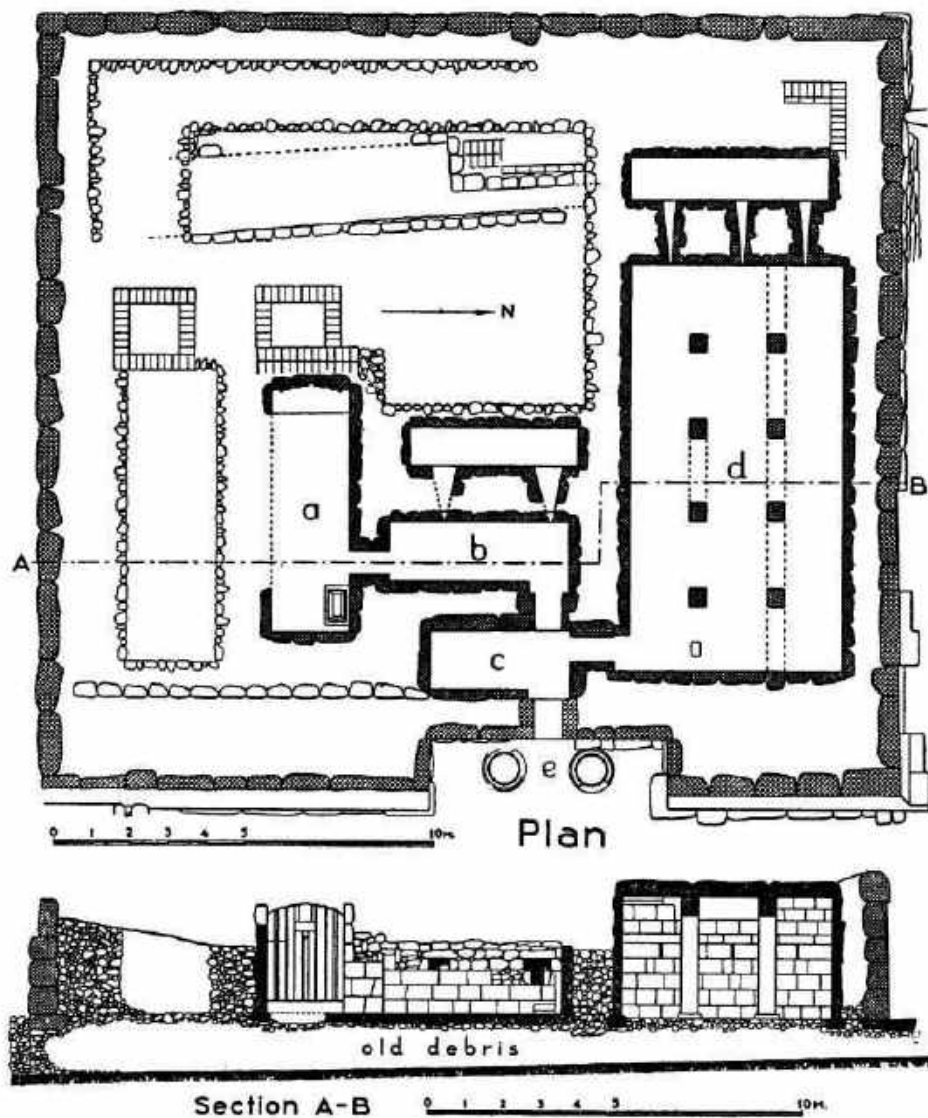


Fig. 162. G 2370

- (3) G 5332 = LG 39: east of G 5230.

Mastaba type VIII c; area, 162.0 sq. m.; prop. 1/0.92.

Chapel, type (7 c) with one additional room and pillared portico:

- (a) 2.0×6.9 m.; area, 13.8 sq. m.; prop. 1/0.29; with compound niche in west end; doorway to (b) in east end of north wall.
- (b) 4.25×1.75 m.; area, 7.44 sq. m.; prop. 1/2.43; with doorway to (c) in west wall at south end.
- (c) 1.75×4.3 m.; area, 7.53 sq. m.; with serdab behind north wall and west of north end of (b).
- (d) pillared portico: 4.4×2.6 m.; area, 11.44 sq. m.; with two pillars at north end of

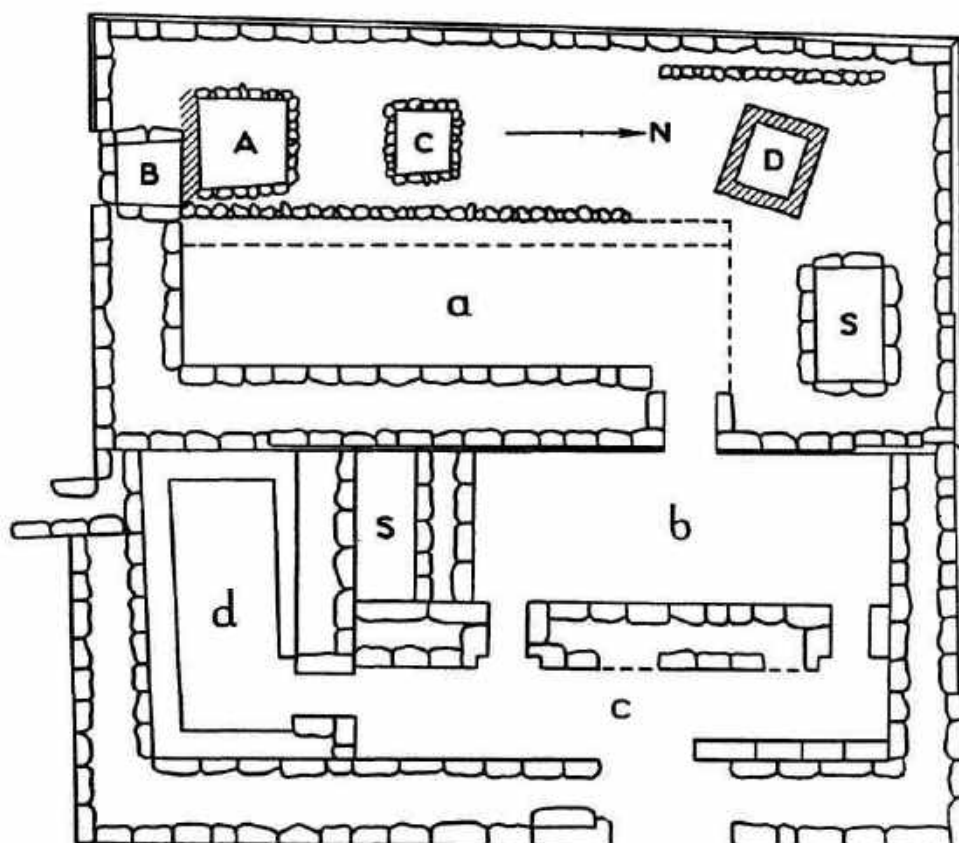
M m

east façade; entrance doorway in middle of west wall, enters (b) in middle of its east wall.

Total area, (a)–(c), 28.77 sq. m.

Total area, (a)–(d), 40.21 sq. m.; relation, 1/4.22.

- (4) G 2381: built on south end of platform of Senezem-ib complex, against the east face of G 2370. Mastaba type VIII a (1), nearly destroyed; min. area, 79.4 sq. m.; irregular form.



Plan

Fig. 163. G 2342 = G 5520

Chapel, type (7 c), with two-roomed nucleus and at least one other room:

- (a) E–W offering-room, 1.5 × 5.25 m.; area, 7.87 sq. m.; prop. 1/0.28; entered from (b) by doorway (with jambs) in east end of north wall.
 (b) width, 1.1 m.; traced northwards for several metres.
 (c) the reliefs recovered from the debris present a number of scenes which require a third room and probably a portico.

The total area cannot be estimated with certainty.

This chapel was built before the year 19 of Pepy I and decorated partly before and partly after that date.

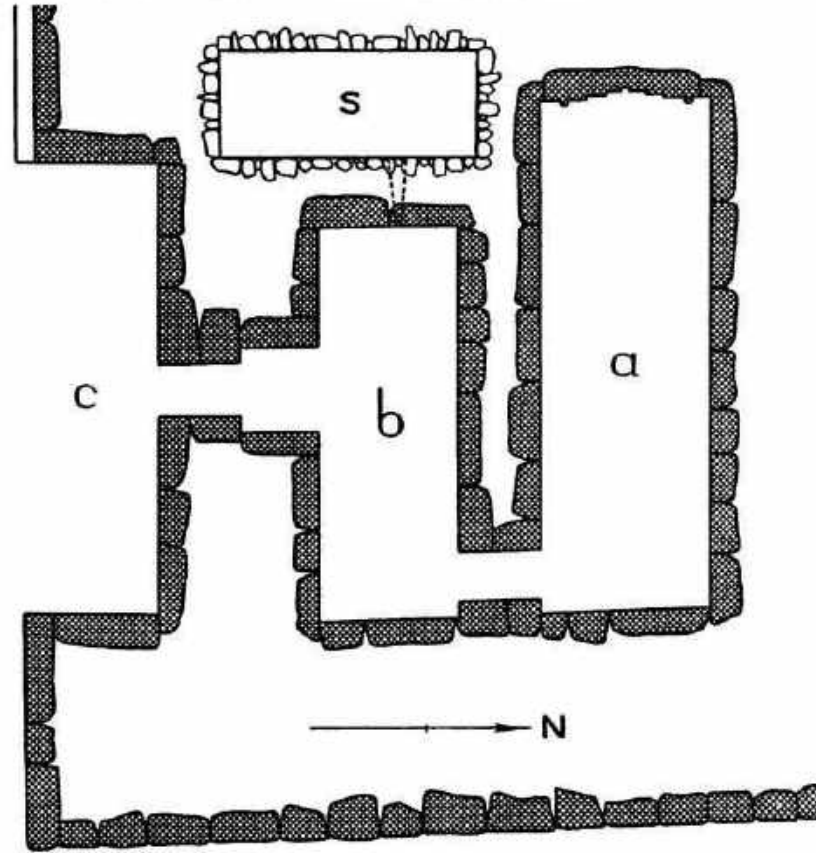
(d) *Interior mastaba chapels of type (7 d): E–W offering-room with other rooms presenting a modification of type (7 c).*

- (1) G 2378: Senezem-ib = Mehi; on north side of paved court of Yenty.

Mastaba type VIII a; 23 × 12 m.; area, 276.0 sq. m.; prop. 1/1.92.

Chapel, E-W offering-room (a) and south of it an E-W room (b) with pillared portico in south façade:

- (a) 2.25×6.75 m.; area, 15.18 sq. m.; prop. 1/0.33; with elaborate false-door stela in west end; entered from south (from (b)) at east end of south wall.
 (b) 1.85×5.2 m.; area, 9.62 sq. m.; prop. 1/0.36; doorway to (a) at east end of north wall; entered from south at west end of south wall.



Plan

0 1 2 3 4 5 m.

Fig. 164. G 2378

(c) pillared portico; 1.8×5.59 m.; area, 10.06 sq. m.

Total floor area, 34.86 sq. m.; relation, 1/7.91.

N.B. The doorway between (a) and (b) has no jambs.

See Fig. 164.

(2) G 2374: Khnum-enti; built between SW corner of Mehi and north wall of Yenti.

Mastaba type VIII a; 4.1×18.5 m.; area, 75.85 sq. m.; prop 1/0.22.

Chapel consisting of E-W offering-room (a) connected by an E-W corridor (b) with a N-S room (c), which is entered from the east at south end of its east wall:

(a) 1.82×5.19 m.; area, 9.45 sq. m.; prop. 1/0.38; door to (b) in east end of south wall.

(b) connecting corridor, E-W with door to (a) in east end of north wall and door at east end into (c); 1.05×3.72 m.; area, 3.91.

(c) N-S room connected by (b) with (a); door at south end of west wall into (b); entrance at south end of east wall from great court; 3.15×1.8 m.; area, 5.67 sq. m.; prop. 1/1.75.

Total floor area, 19.03 sq. m.; relation 1/3.98.

Partly decorated.

Probably associated with sloping passage G 2385 A, with diorite bowl inscribed with name of Teti.

See Fig. 165.

- (3) G 2385: nearly destroyed; built against the north end of G 2384 and the east face of G 2378 (Mehi); on platform of complex with sloping passage G 2387 A entering on east.

Mastaba type VIII c, without shafts; whole area of mastaba taken by chapel and serdabs; 14.3×12.3 m.; area, 171.6 sq. m.; prop. 1/1.16.

Chapel, nucleus like that of Mehi, two E-W rooms connected by doorway; around this nucleus, six other rooms and two serdabs:

- (a) E-W offering-room with niche in west wall; 1.75×4.6 m.; area, 8.05 sq. m.; prop. 1/0.38; entered at east end of north wall from (b).

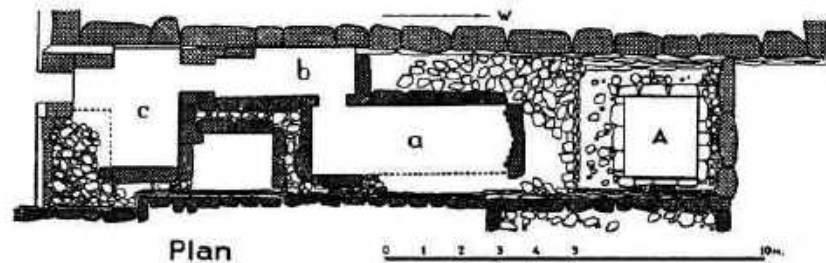


Fig. 165. G 2374

- (b) E-W room, with doorway to (a) at east end of north wall and entrance at west end of south wall from (c.)
- (c) N-S entrance corridor entered at south end from west; 5.0×1.9 m.; area, 9.5 sq. m.; with door to (b) at north end, and door to (d) at north end of east wall.
- (d) E-W corridor entered at west from (c); with doorway to (e) in east end of south wall and to (f) in east end of north wall; 1.7×5.2 m.; area, 8.84 sq. m.
- (e) E-W magazine south of (d); entered from (d) at east end of north wall; 1.75×5.25 m.; area, 9.19 sq. m.
- (f) long corridor connecting rooms (d) and (g), N-S, with doorway at each end; 3.7×1.8 m.; area, 6.66 sq. m.
- (g+h) one or two E-W rooms, north of nucleus room (a); entered from south (from (f)) by doorway at east end; taken as one long room; 1.75×10.7 m.; area, 18.73 sq. m.
- East face of G 2378 exposed in west end.

Total floor area, 69.63 sq. m.; relation, 1/2.46.

- (4) G 2175: Inezuw and Khnum-nefer; two offering-rooms.

Mastaba type VIII c; 7.9×6.65 m.; area, 52.53 sq. m.; prop. 1/1.04; built against north end of G 2172.

Chapel: entrance in east façade at south end; opens in the south end of a long N-S corridor (b), the north end of which opens in the east end of the south wall of an E-W offering-room with two niches in west end (room (a)); in the west wall of (b), just north of the outer doorway, a doorway opens westwards into a reduced example of type (7 b) consisting of a N-S room with two niches in west wall opening into an E-W room with wide stela in west end.

- (a) 0.95×2.35 m.; area, 2.23 sq. m.; decorated; prop. 1/0.4.

- (b) corr. 4.55×0.85 m.; area, 3.87 sq. m.; prop. 1/5.24.

(c) 2.15×0.9 m.; area, 1.94 sq. m.; prop. 1/2.39.

(d) 1.07×1.3 m.; area, 1.39 sq. m.; prop. 1/0.83.

Total floor area, 9.43 sq. m.; relation, 1/5.57.

(5) G 4811+4812.

Mastaba type VIII c; area, 228.23 sq. m.; a conglomeration of constructions composed of at least two mastabas.

Chapels: an exterior forecourt south of G 4813, on east of and belonging to G 4811 and having in its NW corner the chief burial-place of type 9; this court is entered by a doorway at west end of its south wall, which is approached by an E-W corridor which in turn is entered by a N-S corridor between G 4813 and G 4920. In the south of the middle of the west wall of the court a doorway opens westwards into a pillared hall (room (e)); in the west wall of this long N-S pillared hall opens an alcove (f) and an E-W offering-room (g); in the north wall of the hall (e), a doorway opens northwards into the chapel G 4812; room (c), a square room with doorway in its west wall opening into a N-S offering-room (d) and another in its north wall into the corridor (b); the N-S corridor (b) opens by a doorway in its north end into an E-W offering-room (a).

In room h (G 4811): broken stela in west end: Ptah-ir-ankh, *imy r; wabt, imy r; hmwat pr r; imy r; kst nt nswt*.

- (a) E-W offering-room, N (G 4812), entered from (b) from south at east end; 1.62×4.15 m.; area, 6.72 sq. m.; prop. 1/0.39; with false-door stela in west end.
- (b) N-S corridor connecting (a) and (c); 7.8×1.0 m.; area, 7.8 sq. m.; prop. 1/7.8; no jambs at north end; jamb (probably jambs) at south end; niche in west wall near middle; serdab west of south end with slot.
- (c) E-W hall with one pillar; doorway to (b) at east end of north wall and another to (d) at north end of west wall; entered from south, from (e), by door near middle of south wall; 2.2×3.7 m.; 8.14 sq. m.; prop. 1/0.59; serdab parallel to north wall with slot opening in (b), and compound niches in its west wall.
- (d) N-S offering-room entered from (c) by doorway in south of middle of east wall; shallow false door in middle of west wall; 4.25×1.7 m.; area, 7.23 sq. m.; prop. 1/2.5.
- (e) pillared hall (N-S); five pillars remain but apparently originally six; the missing pillar was between the third and fourth now preserved, closer to the third so that the opening between the two middle pillars was smaller and directly opposite room (g); north and south of this opening were originally three pillars on each side; 9.4×3.0 m.; area, 28.2 sq. m.; prop. 1/3.13; entrance doorway from (i), at north end of east wall; in the north wall, doorway to (c); in west wall, deep recess at north end, doorway to (g) in middle, and doorway to (h) at south end; against west wall between (g) and (h) a block of c.b. masonry (to support wall and roof?).
- (f) deep recess (alcove) at north end of west wall of (e); 1.4×1.7 m.; area, 2.48 sq. m.; prop. 1/0.8; in west wall at south, a compound niche; behind the room a shaft.
- (g) E-W offering-room with entrance in west wall of (e), opposite middle; 1.05×1.85 m.; area, 1.94 sq. m.; prop. 1/0.56; with compound niche in west end.
- (h) E-W offering-room, entered from (e) at south end of west wall; 1.6×1.7 m.; area, 2.72 sq. m.; prop. 1/0.94; stela in west end; serdab on south with slot in east end of south wall.

- (i) great open court east of G 4811; entrance from (l) at west end of south wall; outer portico (m) makes a re-entrant angle in SE corner; chief burial-place, type 9, in NW corner; 10.0×5.95 m.; area, $59.5 - 1.32$ sq. m., 58.18 sq. m.
- (j) N-S corridor opening in west end of south wall of (l), and leading southwards to room (k); no jambs; 2.85×0.7 m.; area, 2.0 sq. m.; door to (k) opens to west in south end without jambs.
- (k) N-S offering-room; entered at north end of east wall without jambs; 2.7×1.0 m.; area, 2.7 sq. m.; prop. $1/2.7$; compound niche in west wall just south of middle; serdab west of west wall.
- (l) E-W hall with entrance in north end of east wall, from (m); at west end doorway northwards to (i) and another southwards to (j); 1.7×4.7 m.; area, 7.99 sq. m.
- (m) embrasure portico near south end of east façade of court (i); 3.85×1.65 m.; area, 6.25 sq. m.; pillars not preserved; doorway in middle of west wall opens to hall (l).
- Total area, rooms (a)-(h), 65.23 sq. m.
- Total area, rooms (a)-(h), (j), (k), 69.93 sq. m.
- Area of (i), (l), and (m), 69.13 sq. m.
- Sum total of rooms (a)-(m), 139.06 sq. m.; relation, $1/1.64$.

Another example of this type of chapel is presented by MM D 62 (Ptah-hotep):

(i) Saqqarah, MM D 62: Ptah-hotep (I?).

Mastaba type VIII a (?); 19.2×19.6 m.; 376.32 sq. m.; prop. $1/0.98$.

Chapel: entered from east; there is a cruciform nucleus of three rooms symmetrically placed on the medial E-W axis, but with three other rooms, of which two lettered (a) and (b) form a secondary nucleus of type (7 b) (see cruciform chapels).

- (a) E-W offering-room, south of rooms (c) and (d), of cruciform nucleus entered at east end of north wall from (c); with second door opposite in east end of south wall leading to (f); stela in west wall; 2.65×6.4 m.; area, 16.96 sq. m.; prop. $1/0.41$.
- (b) N-S room, forming the northern room of the nucleus of type (7 b); axis lies east of east end of (a); entered from south from room (c); 6.4×1.95 m.; area, 12.48 sq. m.; prop. $1/3.29$.
- Total area of (a) and (b), 29.44 sq. m.
- (c) E-W vestibule in E-W medial axis, with four doors: in east end entrance from (e); in west end door to (d); at west end of south wall door to (a); at east end of north wall, doorway to (b); 1.6×2.6 m.; area, 4.16 sq. m.
- (d) small E-W room (without niche) at west end of cruciform nucleus perhaps intended for statue; entered from east from (c); 1.65×2.1 m.; area, 3.36 sq. m.; prop. $1/0.76$.
- (e) pillared hall, with three N-S rows of four pillars each; entered from east by door in middle, leads to (c) on north and south; long serdab in thickness of wall; 11.55×8.1 m.; area, 93.56 sq. m.; prop. $1/0.3$.
- Total area of (c), (d), (e), cruciform nucleus, 101.21 sq. m.
- (f) E-W room south of (a) and connected with it by doorway at east end of south wall; serdab slot in east end; 1.1×3.6 m.; area, 3.96 sq. m.
- Sum total of floor area, 134.48 sq. m.; relation, $1/2.81$.
- Prop. of chapel area to mastaba area, $1/2.79$.

(e) *Interior mastaba chapels, type (7 e): complex of rooms based on a cruciform nucleus with E-W offering-room.*

(i) LG 53-54: Seshem-nofer and Hetep-heres; at east end of Cem. G I S.

Mastaba type VIII a; 23.18×12.65 m.; area, 293.23 sq. m.; prop. 1/1.83.

Chapel: two chapels with doorway in east façade; the south chapel consists of four rooms (a)-(d) the nucleus of which (a), (b) is cruciform with two rooms on north, of which (c) is a N-S room and (d) an E-W offering-room; the north chapel is of type (5 c) containing room (e).

(a) E-W offering-room, with wide stela in west end; opening from middle of (b); 2.11×4.06 m.; area, 8.57 sq. m.; prop. 1/0.52.

(b) N-S room from the middle of which opens (a); entered by doorway at north end, from (c); 6.55×2.11 m.; area, 13.82 sq. m.; prop. 1/3.1.

(c) N-S room with doorway at south end to (b); doorway at north end of west wall to (d); entrance at north end of east wall; 3.11×1.78 m.; area, 5.53 sq. m.; prop. 1/1.75.

(d) E-W offering-room without (?) niche in west end; entered at east; 1.52×3.25 m.; area, 4.94 sq. m.; prop. 1/0.46.

(e) north chapel of type (5 c), with entrance at north end of east wall; corr. 4.14×1.24 m.; area, 5.13 sq. m.; prop. 1/3.35; alcove, 1.11×0.58 m.; area, 0.64.

Total area of (e), 5.77 sq. m.

Total area of (a)-(d), 32.86 sq. m.

Sum total (a)-(e), 38.63 sq. m.; relation, 1/7.59.

The last example of this type is probably in the mastaba of Akhet-hetep and his son Ptah-hotep at Saqqarah:

(i) Saqqarah, MM D 64: Akhet-hetep and Ptah-hotep.

Mastaba type VIII a (?); 25.6×25.6 m.; area, 675.36 sq. m.; prop. 1/1.0.

Chapel: original chapel consists of rooms (a)-(g) of which the nucleus consists of rooms (a)-(c), asymmetrically arranged on the E-W medial axis, and approached from the north by hall (d) and portico (e); north of this nucleus lie the two subsidiary chambers (f) and (g); east and south other chambers have been added for the son, Ptah-hotep.

(a) E-W offering-room with stela in west end opening directly from west side of (b) without door-jambs; 2.46×4.27 m.; area, 10.6 sq. m.; prop. 1/0.58.

(b) N-S room with (a) opening in middle of west wall; entered by doorway in medial axis from pillared hall (c); 6.61×1.66 m.; area, 10.97 sq. m.; prop. 1/3.98; with connecting passage to (f) in north end.

Total floor area of (a) and (b), 21.57 sq. m.

(c) pillared hall, with four pillars in two rows of two pillars each; entered from hall (d) by doorway in middle of east wall; doorway to (b) in middle of west wall; doorway to rooms of Ptah-hotep at east end of south wall; doorway to (f) near middle of north wall; 8.36×6.32 m.; area, 52.83 sq. m.; prop. 1/1.32.

(d) N-S hall connecting (c) with portico (e); doorway to (c) in south end of west wall; doorway to portico (e) in north end; in south end is a large recess probably once containing a statue facing the entrance; in the north end of west wall, a passage opens leading to (f)-(g); in the south of east wall opens the doorway to (j) and other subsidiary rooms (Ptah-hotep); 6.78×2.13 m.; area, 14.44 sq. m.

(e) embrasure with E-W portico; doorway in middle leads to hall (d); 2.4×5.87 m.; area, 14.09 sq. m.

Total area of (a)–(e), 102.93 sq. m.

(f) E-W corridor connecting (g) with hall (d); entered by long narrow passage from east from (d) at east end of south wall, doorway to pillared hall (c); at west end of south wall doorway to (b); in west end doorway to (g); 1.9×7.05 m.; area, 13.4 sq. m.

(g) N-S room entered from west end of (f) by doorway in north end of east wall; no niches; 4.75×1.56 m.; area, 7.41 sq. m.; prop. 1/3.05.

Total area, rooms (a)–(g), 123.74 sq. m.

Prop. of chapel (a)–(g) to mastaba, 1/5.46.

Of the later rooms, (h) and (i) have a particular interest:

(h) anteroom, entered by doorway in east end of south wall of the pillared portico; with statue recess in west wall; doorway to (i) in south wall, another doorway in east wall; 1.83×1.22 m.; area, 2.23 sq. m.

(i) N-S offering-room with two niches in west wall; large niche on south with offering-stone (*htp*); north niche with palace-façade panelling; 5.28×2.18 m.; area, 11.51 sq. m.; prop. 1/2.42.

Total area, (a)–(i), 137.48 sq. m.; relation, 1/4.91.

Cf. also MM D 62, listed as type (7 d).

(4) *Exterior Mastaba Chapels of Type (8)*

The roofed exterior chapel was introduced about the time of Khasekhemuwy (end of Dyn. II), and was largely used in the great c.b. mastabas of Dyn. III and down to the reign of Cheops. These older roofed exterior chapels had two chief forms, a multi-roomed chapel attached to the chief offering-place or a corridor chapel covering the façade of the mastaba. The corridor type had a two-roomed variation in which the southern or chief niche was enclosed by a separate room which often projected eastwards. The southern room was often fitted into the open space left at the south end of the mastaba in front. The corridor chapel was a type practically forced into use by the crowding of mastabas in a great cemetery.

When the nucleus mastabas were finished at Giza, the roofed exterior chapel was the form generally adopted, either the c.b. chapel of type (1) or the stone chapel of type (2). Both these types were attached to the south or chief offering-place. The exterior chapel attached at one of the two niches of a mastaba continued in use (see type (8 f–g) below), but only for really large mastabas. The exterior corridor chapel was never used for any of the nucleus finished mastabas in the Cems. G 1200, G 2100, G 4000, or G 7000. The corridor chapel, both interior and exterior, was, however, the prevailing type in the later mastabas between and around the nucleus cemeteries. In these crowded areas the same conditions obtained which led to the introduction of the older corridor chapels of Dyn. III, and even the two-roomed corridor chapel with room around the chief niche arose again in the exterior corridors at Giza which have an alcove projecting eastwards. It is therefore possible that the roofed exterior corridor at Giza originated independently of the older chapels of this form. Nevertheless, the similarity of the two forms is to be remembered.

Thus the roofed exterior chapels of type (8), dated generally to the period from the end of Dyn. IV to Dyn. VI, present two distinct forms, the chapel attached to the chief niche, and the corridor chapel covering the façade of the mastaba. Chapels attached to the chief niche, type (8 f–g), are related to the

older chapels of type (1). The corridor chapels, type (8 a-d), are connected in form and in time with the interior chapels of type (5).

The variations of the roofed exterior corridor chapels which are added to the eastern façade of the mastabas are based on the variations of the niches of the mastabas themselves and are as follows:

Type (8 a): added to mastabas with the ordinary two-niched façade.

Type (8 b): added to mastabas with two or more pairs of niches in the east face.

Type (8 c): added to mastabas with abnormal niche-work (one, three, or more niches, or with niches irregularly placed); abnormality often due to bad preservation of façade.

Type (8 d): added to mastabas without niches or with no niches preserved.

In addition to these variations, a number of these exterior chapels have an alcove projecting eastwards at the southern end (around the chief niche or the chief pair of niches), and to mark this feature an x is appended to the type designation as enumerated above; for example, type (8 a) with an east alcove becomes (8 ax), &c.

To these four variations of the corridor chapel of type (8) are added three others, of which one is a multi-roomed chapel covering the whole façade of the mastaba and the other two are chapels of one or more rooms built around the chief niche of the mastaba:

Type (8 e): exterior roofed chapel of more than one room covering the façade of the mastaba.

Type (8 f): exterior chapel of more than one room covering the chief niche of the mastaba.

Type (8 g): one-room exterior chapel built around the chief niche of the mastaba.

The chapel of type (8 f) is clearly a degeneration of chapel type (1) and is represented by only a few examples, usually of c.b. The chapel of type (8 g) is similar to the one-room chapel of type (1 d).

The following list gives the examples of types (8 a)-(8 g):

(a) *Chapels of type (8 a) covering the façade of ordinary two-niched mastabas.*

- (1) G 1054: mastaba type IX c (1); area, 33.62 sq. m.; 2 shafts.
Chapel, (5 a); 2.2×0.65 m.; area, 1.43 sq. m.; prop. 1/3.39.
Relation of chapel floor to mastaba area, 1/23.51.
- (2) G 1408-1409: mastaba type IX c on X e (2); area, 33.3 sq. m.; 6 shafts.
Chapel, (8 a); 3.3×1.5 m.; area, 4.85 sq. m.; prop. 1/2.2.
Relation of chapel to mastaba, 1/6.66.
- (3) G 1301: mastaba, IX c (2); area, 28.05 sq. m.; 4 shafts.
Chapel, (8 a); 6.75×0.65 m.; area, 4.38 sq. m.; prop. 1/10.4.
Relation of chapel to mastaba, 6.40.
- (4) G 1025 b: mastaba, IX c (1); area, 26.95 sq. m.; 5 shafts.
Chapel, (8 a); 5.6×0.75 m.; area, 4.2 sq. m.; prop. 1/7.47.
Relation of chapel to mastaba, 1/6.42.
- (5) G 3041: mastaba type IX c (1); area, 25.08 sq. m.; 4 shafts.
Chapel, (8 a); 6.1×1.0 m.; area, 6.1 sq. m.; prop. 1/6.1.
Relation of chapel to mastaba, 1/4.11.
- (6) G 1362: mastaba, IX c (1); area, 23.7 sq. m.; 3 shafts.
Chapel, (8 a); 5.25×0.65 m.; area, 3.41 sq. m.; prop. 1/8.08.
Relation of chapel to mastaba, 1/6.95.
- (7) G 3074: mastaba, IX c on X e (1); area, 19.25 sq. m.; 6 shafts.

- Chapel, (8 a); 3.9×1.1 m.; area, 4.29 sq. m.; prop. $1/3.55$.
Relation of chapel to mastaba, $1/4.49$.
- (8) G 1676: mastaba, IX c on X e (3); area, 18.95 sq. m.; 2 shafts.
Chapel, (8 a); 3.0×0.95 m.; area, 2.85 sq. m.; prop. $1/3.16$.
Relation of chapel to mastaba, $1/6.65$.
See Fig. 166.
- (9) G 1302: mastaba, IX c (1); area, 18.0 sq. m.; 6 shafts.
Chapel, (8 a); 5.3×1.0 m.; area, 5.3 sq. m.; prop. $1/5.3$.
Relation of chapel to mastaba, $1/3.9$.
- (10) G 1040: mastaba, IX c (1); area, 14.6 sq. m.; 1 shaft.
Chapel, (8 a); 4.6×0.85 m.; area, 3.91 sq. m.; prop. $1/5.41$.
Relation of chapel to mastaba, $1/3.99$.
- (11) G 1037: mastaba, IX e (2); area, 33.3 sq. m.; 6 shafts.
Chapel, (8 a of c.b.); 4.85×0.8 m.; area, 3.88 sq. m.; prop. $1/6.06$.
Relation of chapel to mastaba, $1/8.58$.
- (12) G 3084: mastaba, IX e (2); area, 29.75 sq. m.; 3 shafts.
Chapel, (8 a); 6.4×1.2 m.; area, 7.68 sq. m.; prop. $1/5.33$.
Relation of chapel to mastaba, $1/3.72$.
- (13) S. H., Fig. 177: mastaba, IX c; area, 18.8 sq. m.; 2 shafts.
Chapel, (8 a); 3.78×0.68 m.; area, 2.57 sq. m.; prop. $1/5.56$.
Relation of chapel to mastaba, $1/7.32$.
- (14) G 3096: mastaba, IX e (1); area, 17.2 sq. m.; 4 shafts.
Chapel, (8 a); $3.2 \times (1.5-1.0)$ m.; area, 4.15 sq. m.; $1/2.46$.
Relation of chapel to mastaba, $1/4.14$.
- (15) G 1104: mastaba, IX e (2); area, 12.4 sq. m.; 2 shafts.
Chapel, (8 a); 2.5×1.1 m.; area, 2.75 sq. m.; prop. $1/2.27$.
Relation of chapel to mastaba, $1/4.51$.
- (16) G 1402: mastaba, IX e (2); area, 12.0 sq. m.; 2 shafts.
Chapel, (8 a); 3.55×0.9 m.; area, 3.19 sq. m.; prop. $1/3.94$.
Relation of chapel to mastaba, $1/3.76$.
- (17) G 1105: mastaba, IX e (2); area, 12.0 sq. m.; 4 shafts.
Chapel, (8 a); 2.9×1.1 m.; area, 3.91 sq. m.; prop. $1/2.64$.
Relation of chapel to mastaba, $1/3.03$.
- (18) G 1675: mastaba, IX c (1); area, 10.45 sq. m.; 2 shafts.
Chapel, (8 a); 4.0×1.05 m.; area, 4.2 sq. m.; prop. $1/3.81$.
Relation of chapel to mastaba, $1/2.49$.
- (19) G 1123: mastaba, IX d (1); area, 8.75 sq. m.; 2 shafts.
Chapel, (8 a); 3.35×0.7 m.; area, 2.76 sq. m.; prop. $1/4.38$.
Relation of chapel to mastaba, $1/3.17$.
- (20) G 1079: mastaba, IX d (1); area, 8.0 sq. m.; 2 shafts.
Chapel, (8 a); 3.0×0.75 m.; area, 2.25 sq. m.; prop. $1/4.0$.
Relation of chapel to mastaba, $1/3.55$.
- (21) G 1689: mastaba, IX c (1); area, 6.05 sq. m.; 2 shafts.
Chapel, (8 a); 2.7×0.85 m.; area, 2.29 sq. m.; prop. $1/3.18$.
Relation of chapel to mastaba, $1/2.64$.

An anomalous chapel has the alcove separated from the corridor with a separate doorway to each of the two rooms:

(22) G 3092: mastaba, IX e (2); area, 82.95 sq. m.; 3 shafts.

Chapel, (8 ax); two rooms: (a) square room around south niche with doorway into exterior corridor; (b) corridor around north niche with doorway into exterior corridor.

(a) 2.2×3.0 m.; area, 6.6 sq. m.; prop. 1/0.73.

(b) 4.0×1.2 m.; area, 4.8 sq. m.; prop. 1/3.33.

Total area, 11.4.

Relation of chapel to mastaba, 1/7.28.

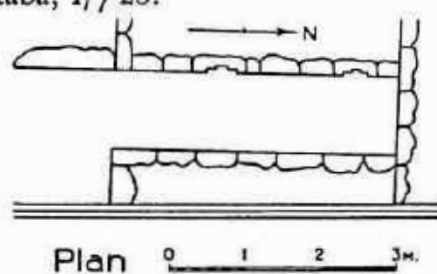


Fig. 166. G 1676

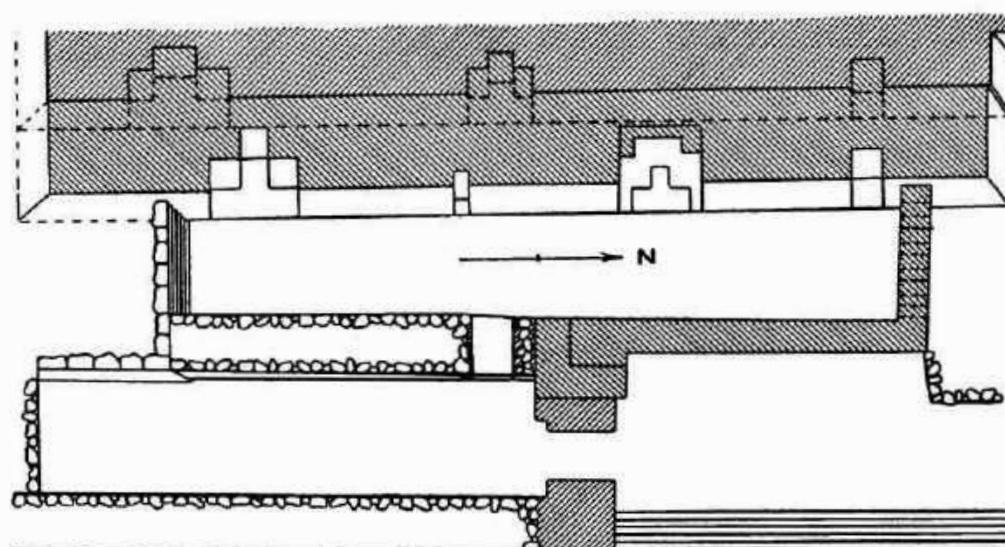


Fig. 167. G 1406

(b) *Exterior chapels of type (8 b) with two or more pairs of niches.*

(1) G 1406: mastaba, IX e (3); area, 97.0 sq. m.; 2 shafts.

Chapel, (8 b) + ext. corr.; 9.3×1.3 m.; area, 12.0 sq. m.; prop. 1/7.15.

Relation of chapel to mastaba, 1/8.08.

See Fig. 167.

(2) G 1161: mastaba, IX e (2); area, 53.81 sq. m.; 5 shafts.

Chapel, (8 b) orig.; 5.45×0.55 m.; area, 2.99 sq. m.; prop. 1/9.91.

Relation, 1/17.99.

(3) G 1673: mastaba, IX c (1); area, 44.52 sq. m.; 13 shafts.

Chapel, (8 b); 10.95×0.8 m.; area, 8.76 sq. m.; prop. 1/13.69.

Relation, 1/5.08.

- (4) G 1039: mastaba, IX c (2); area, 38.28 sq. m.; 5 shafts.
Chapel, (8 a); 6.5×0.65 m.; area, 4.22 sq. m.; prop. 1/10.
Relation, 1/9.08.
- (5) G 3097: mastaba, IX e (1) (composite); area, 32.7 sq. m.; 6 shafts.
Chapel, (8 b); 6.1×1.0 m.; area, 6.1 sq. m.; prop. 1/6.1.
Relation, 1/5.36.
- (6) G 1162 + 1172: mastaba, IX e (2); area, 29.0 sq. m.; 4 shafts.
Chapel, (8 b); 2.85×0.45 m.; area, 1.28 sq. m.; prop. 1/6.33.
Relation, 1/22.66.
- (7) G 3094: mastaba, IX e (1); area, 28.1 sq. m.; 4 shafts.
Chapel, (8 b); 8.7×0.8 m.; area, 6.96 sq. m.; prop. 1/10.87.
Relation, 1/4.04.
- (8) G 3088: mastaba, IX e (1); area, 25.24 sq. m.; 4 shafts.
Chapel, (8 b); 5.8×1.6 m.; area, 9.28 sq. m.; prop. 1/3.63.
Relation, 1/2.72.
- (9) G 3083: mastaba, IX e (3) + d (1); area, 17.91 sq. m.; 4 shafts.
Chapels, (8 a); and abnormal south room; corr. 7.5×0.85 –1.2 m.; area, 8.16 sq. m.; prop. 1/6.88; total area, 10.89.
Relation, 1/1.64.
- (10) G 3024: mastaba, IX e (3); area, 14.94 sq. m.; 2 shafts.
Chapel, (8 b); 5.2×0.6 m.; area, 3.1 sq. m.; prop. 1/8.66.
Relation, 1/4.82.
- (11) G 3081: mastaba, IX e (3); area, 13.23 sq. m.; 5 shafts.
Chapel, (8 b) + vest.; 4.9×0.95 m.; area, 4.65 sq. m.; prop. 1/8.66.
Relation, 1/2.82.
- (12) G 1068: mastaba, IX d (1); area, 12.79 sq. m.; 2 shafts.
Chapel, (8 b); 3.2×1.1 m.; area, 3.52 sq. m.; prop. 1/2.91.
Relation, 1/3.65.
- (13) G 3098 a: mastaba, IX e (1); area, 11.5 sq. m.; 1 shaft.
Chapel, (8 b); 4.3×1.0 m.; area, 4.3 sq. m.; prop. 1/4.3.
- (14) G 3010: mastaba, IX c (1); area, 26.08 sq. m.; 4 shafts.
Chapel, (8 bx); two pair of niches (?) and east alcove.
Corridor, 7.4×0.7 m.; area, 5.18 sq. m.; prop. 1/1.05.
East alcove, 1.9×0.75 m.; area, 1.42 sq. m.
Total area, 6.6 sq. m.
Relation, 1/3.95.
See Fig. 168.
- (15) G 3086: mastaba, IX e (1); area, 13.6 sq. m.; 4 shafts.
Chapel, (8 bx); with vestibule corridor; three pairs of niches (?); with east alcove.
Corridor, 3.8×0.66 m.; area, 2.5 sq. m.; prop. 1/5.76.
East alcove, 2.0×2.2 m.; area, 4.4 sq. m.
Total area, 6.9 sq. m.; E–W corridor on north; on north open corridor with serdab; total area roofed, 8.9.
Relation, 1/1.53.

(c) *Exterior chapels of type (8 c) with abnormal niche-work.*

- (1) G 3085: mastaba, IX c (1); area, 41.38 sq. m.; 4 shafts.

Chapel, (8 c); with three niches; north stela in recess and a pair.

Corridor, 7.6×0.8 m.; area, 6.0 sq. m.; prop. 1/9.5.North recess, 1.3×1.3 m.; area, 1.69 sq. m.

Total area, 7.69 sq. m.; relation, 1/5.38.

See Fig. 169.

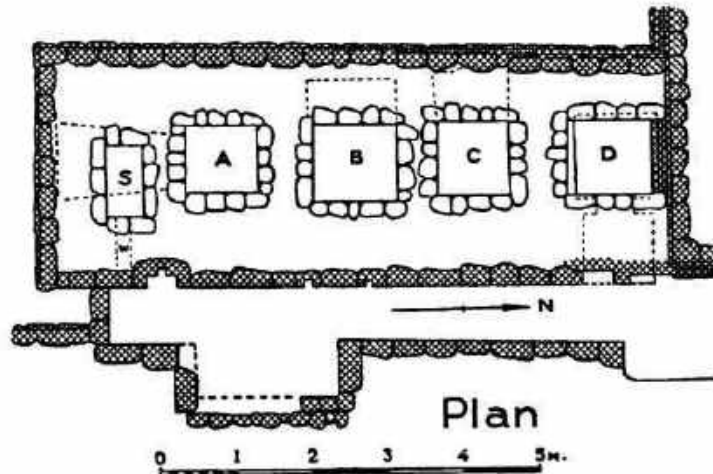


Fig. 168. G 3010

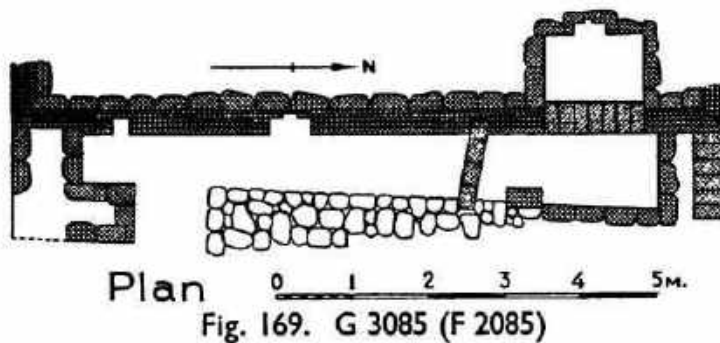


Fig. 169. G 3085 (F 2085)

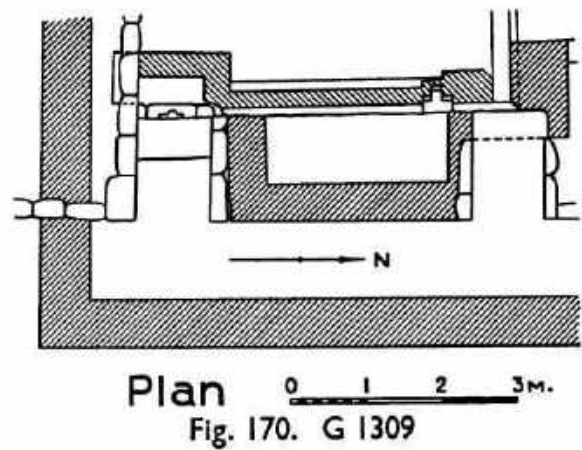


Fig. 170. G 1309

- (2) G 1308: mastaba, IX e (1); area, 38.19 sq. m.; 6 shafts.

Chapel, (8 c); deep south recess and three niches.

Corridor, 6.45×1.05 m.; area, 6.77 sq. m.; prop. 1/6.14.

Total area, 8.10 sq. m.; relation, 1/4.71.

- (3) G 1304: mastaba, IX e (1); area, 38.19 sq. m.; 7 shafts.

Chapel, two pairs and extra stone niche on north; 6.0×1.0 m.; area, 6.0 sq. m.; prop. 1/6.0.

Relation, 1/6.36.

- (4) G 1309: mastaba, IX e (1); area, 35.28 sq. m.; 2 shafts.

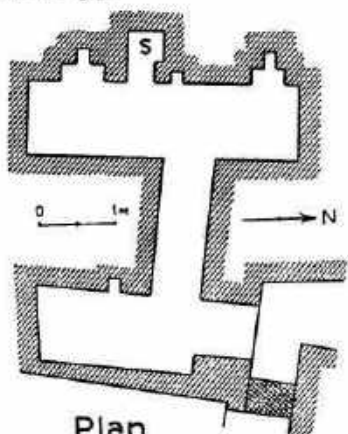
Chapel, stela in deep recess on south; no other niches.

Corridor, 5.05×1.0 m.; area, 5.05 sq. m.; prop. 1/5.05.Recess, 1.0×1.35 m.; area, 1.35 sq. m.

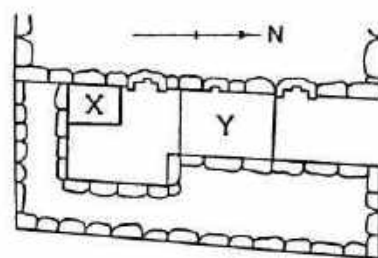
Total area, 6.4 sq. m.; relation, 1/5.51.

See Fig. 170.

- (5) G 1363: mastaba, IX c (1); area, 21.9 sq. m.; 4 shafts.
 Chapel, (8); with monolithic stela in middle of west wall; 6.35×0.65 m.; area, 4.12 sq. m.;
 prop. 1/9.76.
 Relation, 1/5.31.
- (6) G 3013-3014: composite mastaba, type IX c (1); area, 19.82 sq. m.; 4 shafts.
 Chapel, (8 c); one stela torn out at south end; 7.4×0.6 m.; area, 4.44 sq. m.; prop. 1/12.33.
 Relation, 1/4.46.
- (7) G 3044: mastaba, IX e (1); area, 18 (?) sq. m.; shafts unexcavated.
 Chapel, (8 c); of irregular width; compound on south and two simple niches; $5.25 \times (1.8-1.6)$ m.;
 area, 9.31 sq. m.; prop. 1/3.09.
 Relation, 1/1.93.



Plan
Fig. 171. G 3003 (Fisher)



Plan 0 1 2 3 m.
Fig. 172. G 1121

- (8) G 3003: mastaba, IX e (1); area, 16.96 sq. m.; 2 shafts.
 Chapel, (8 c); three niches and serdab, with roofed vestibule corridor; 3.6×0.95 m.; area,
 3.42 sq. m.; prop. 1/3.78.
 Relation, 1/4.96.
 See Fig. 171.
- (9) G 1108: mastaba, IX d (3); area, 12.87 sq. m.; 3 shafts.
 Chapel, (8 c); three niches, two compound and one simple; 4.6×1.5 m.; area, 5.06 sq. m.;
 prop. 1/3.07.
 Relation, 1/2.54.
 Chapel of type (8 cx):
 Examples with east alcove on south:
- (10) G 1121: mastaba, IX c (1); area, 15.51 sq. m.; 2 shafts.
 Chapel, type (8 cx); corridor with east alcove.
 Corridor, 2.8×0.86 m.; area, 2.41 sq. m.; prop. 1/3.26.
 Alcove, 1.35×1.26 m.; area, 1.7 sq. m.
 Total area, 4.11 sq. m.
 Relation, 1/3.77.
 See Fig. 172.
- (11) G 3035: mastaba, IX e (1); area, 57.2 sq. m.; 4 shafts.
 Chapel, (8 cx); four or more irregularly placed niches.
 Corridor, 9.4×0.7 m.; area, 6.48 sq. m.; prop. 1/13.43.

East alcove, 2.2×4.0 m.; area, 8.8 sq. m.

Total area, 14.38 sq. m.

Relation, $1/3.98$.

- (12) G 3033: mastaba, IX e (1); area, 53.55 sq. m.; 8 shafts.

Chapel, (8 cx); seven niches, pair, three, and pair.

Corridor, 8.50×0.85 m.; area, 7.22 sq. m.; prop. $1/10.0$.

Total floor area, 8.44 sq. m.

Relation, $1/6.34$.

See Fig. 173.

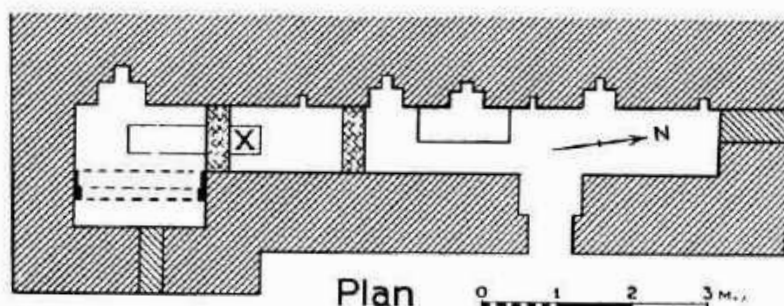


Fig. 173. G 3033 (Fisher)

- (13) G 3036: mastaba, IX e (1); area, 38.64 sq. m.; 6 shafts.

Chapel, (8 cx); with two-room alcove; five niches, middle niche flanked by pair on each side.

Corridor, 5.25×0.74 m.; area, 3.88 sq. m.; prop. $1/7.09$.

East alcove, 2.45×2.45 m.; area, 6.0 sq. m.

Total floor area, 8.46 sq. m.; net floor area, 8.06 sq. m.

Relation, $1/4.78$.

- (14) G 3093: mastaba, IX e (1); area, 37.0 sq. m.; 5 shafts.

Chapel, (8 cx); seven niches, three pairs and extra on north.

Corridor, 4.4×1.1 m.; area, 4.84 sq. m.; prop. $1/4.0$.

East alcove, 1.9×2.1 m.; area, 3.99 sq. m.

Total area, 8.83 sq. m.

Relation, $1/4.19$.

(d) *Exterior chapels of type (8 d) without niches or with no niches preserved.*

- (1) G 3020: mastaba, IX c (1); area, 41.36 sq. m.; 8 shafts.

Chapel, with no niches preserved; 7.2×1.1 m.; area, 7.92 sq. m.; prop. $1/6.55$.

Relation, $1/5.22$.

- (2) G 3073: mastaba, IX c (2); area, 30.36 sq. m.; 3 shafts.

Chapel, niches removed by stripping of casing; 6.5×1.0 m.; area, 6.5 sq. m.; prop. $1/6.5$.

Relation, $4/67$.

- (3) G 1364: mastaba, IX c (1); area, 22.0 (?) sq. m.; 2 shafts.

Chapel, (8 d); casing stripped; 4.4×0.95 m.; area, 4.18 sq. m.; prop. $1/4.63$.

Relation, $1/5.26$.

- (4) G 1059: mastaba, IX d (1); area, 12.75 sq. m.; 3 shafts.

Chapel, (8 d); niches probably furrows in mud plaster; 4.4×1.6 m.; area, 7.2 sq. m.; prop. $1/2.75$.

Relation, $1/1.77$.

- (5) G 1159: mastaba, IX c (1); area, 19.28 sq. m.; 2 shafts.
 Chapel, (8 d); niches probably weathered away; 3.1×1.25 m.; area, 3.87 sq. m.; prop. 1/2.48.
 Relation, 1/4.98.
- (6) G 1050: mastaba, IX c (1); area, 10.2 sq. m.; 2 shafts.
 Chapel, (8 d); apparently without niches; 3.85×0.95 m.; area, 3.65 sq. m.; prop. 1/4.05.
 Relation, 1/2.79.

(e) *Exterior chapels covering the façade of the mastaba: type (8 e).*

- (1) G 2100-II ann.: Nensezerka; mastaba, IX a (1); area, 70.8 sq. m.; 2 shafts.
 Chapel, (8 e); built against the façade of mastaba; offering-room, pillared portico and court.

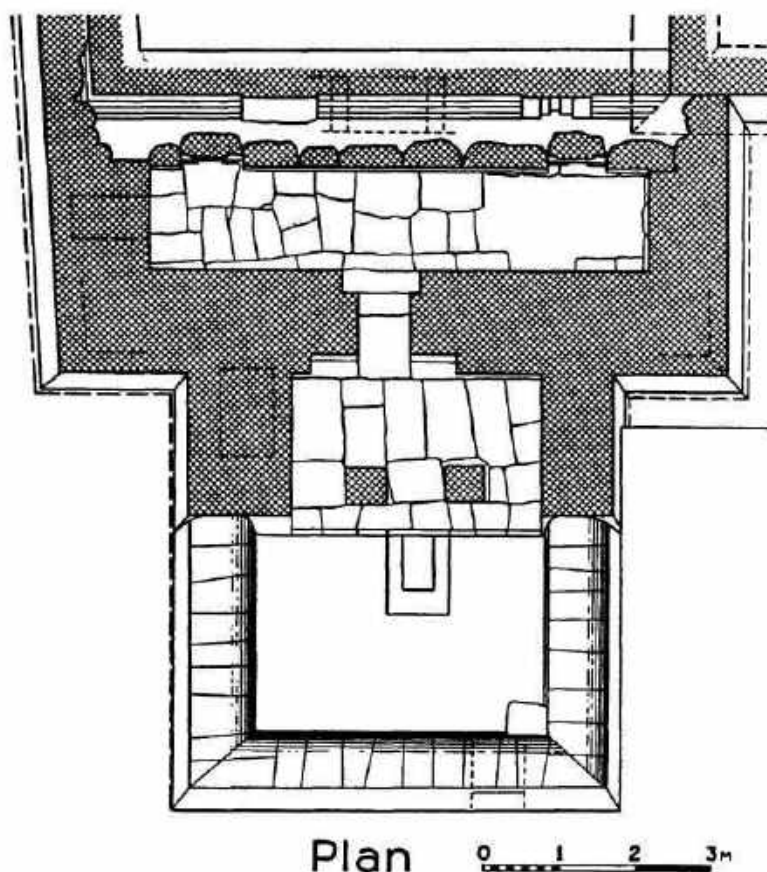


Fig. 174. G 2100-II ann. (Junker)

- (a) offering-room of type (8 a) with two niches in west wall (not niches in mastaba);
 6.6×1.35 m.; area, 8.91 sq. m.; prop. 1/4.88.

Relation, 1/7.95.

See Fig. 174.

- (2) G 5020: mastaba, II a cased on east with c.b.; area, 251.22 sq. m.; 2 shafts and third in annex.
 Chapel, (8 e); now consists of four rooms; magazine in south entered from corridor (b) (with three pairs of niches), vestibule room east of north end of (b), and magazine east of south end of (b), entered from (b).
- (a) u-masonry, 3.5×1.2 m.; area, 4.2.
 (b) corridor offering-room, 17.0×1.3 m.; area, 22.1 sq. m.
 (c) built of rubble, 2.85×1.35 m.; area, 3.85 sq. m.
 (d) E-W vestibule, 1.55×3.05 m.; area, 4.73 sq. m.

Total area, a-d, 34.88 sq. m.

Relation of chapel area to area of mastaba and annex, 1/8.77.

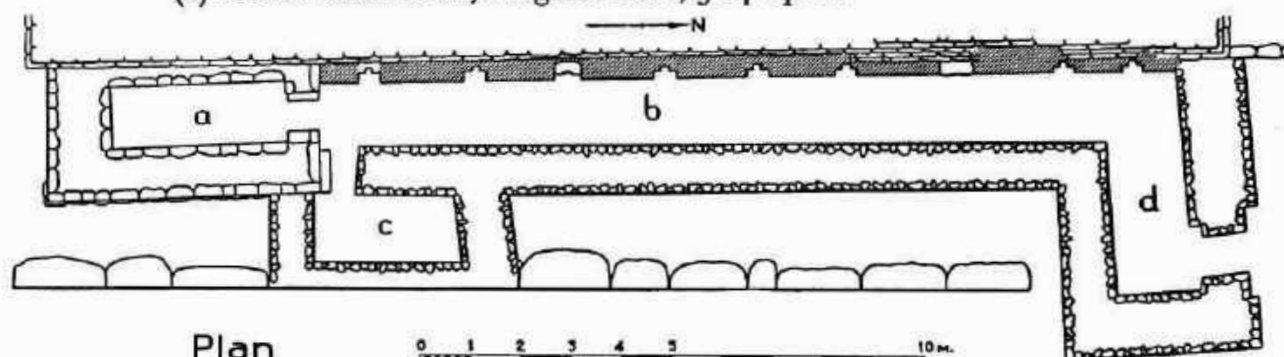
See Fig. 175.

(f) *Exterior multiple-room chapel around chief niche of two-niched mastaba: type (8 f). See type (1 c).*

(1) G 1412: mastaba, IX e (3); area, 149.52 sq. m.; 2 shafts.

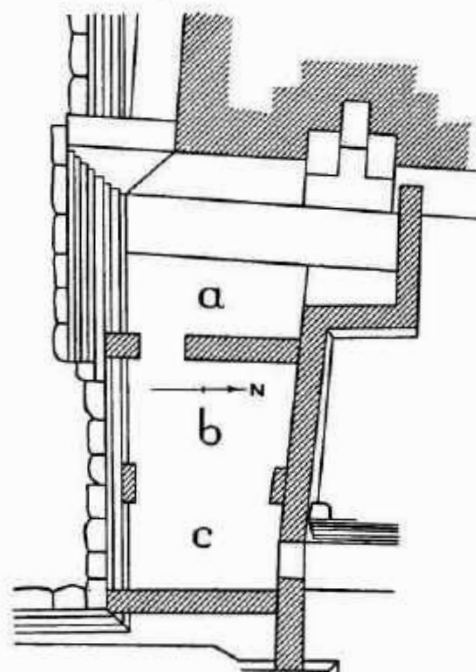
Chapel, (8 f); with three rooms around the south niche.

(a) room a chief room, irregular form, 5.64 sq. m.



Plan

Fig. 175. G 5020



Plan

Fig. 176. G 1412

(b) 2.15 × 1.4 m.; area, 3.01 sq. m.

(c) 1.95 × 1.15 m.; area, 2.24 sq. m.

Total area, 10.89 sq. m.

Relation, 1/13.73.

See Fig. 176.

(2) G 5210: mastaba type, IX a (1); area, 214.23 sq. m.

Chapel, (8 f); two-room chapel of u-masonry built around the chief southern niche.

(a) 3.8 × 0.95 m.; area, 3.61 sq. m.; prop. 1/4.0.

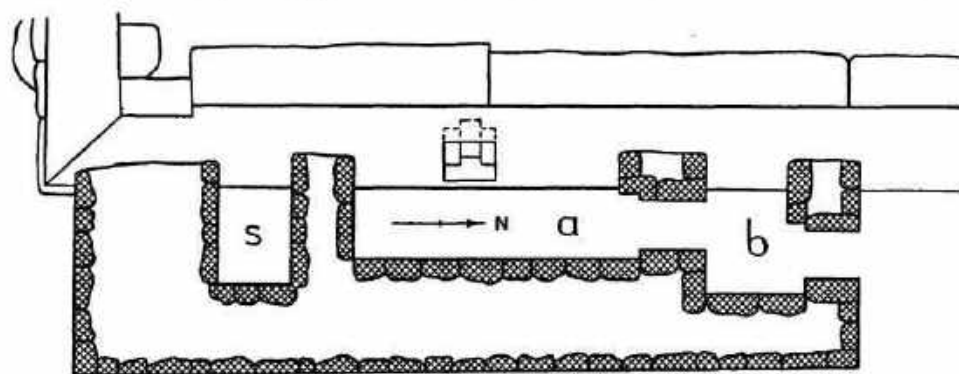
(b) 1.05 × 1.4 m.; area, 1.47 sq. m.

Total area, a and b, 5.08 sq. m.; serdab in south wall of (a).

Relation, $1/42.25$.

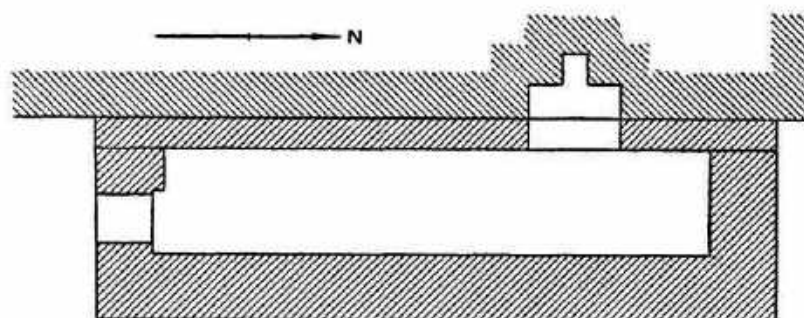
See Fig. 177.

One large roofed stone chapel, G 6020, Iy-mery, presents a plan which might permit it to be classified as type (8 f). The offering-room is built around the chief niche (southern) of a two-niched mastaba. The offering-room is entered by a long decorated E-W corridor on the south of which lies a long E-W



Plan 0 1 2 3 4 5m.

Fig. 177. G 5210



Plan 0 1 2 3 4 5m.

Fig. 178. G 1351

serdab of the same length. The corridor is entered from a square decorated vestibule room with entrance from the east. This chapel is given in full under the complex chapels of type (12).

(g) *Exterior one-room chapel around chief niche: type (8 g). See type (1 d).*

(1) G 1351: mastaba, IX e (1); area, 396.8 sq. m.; one shaft.

Chapel, (8 g); c.b. vaulted chapel around north niche (chief niche); 7.25×1.4 m.; area, 10.15 sq. m.; prop. $1/5.17$.

Also open exterior chapel on south.

Relation of main chapel to mastaba, $1/39.09$.

See Fig. 178.

(2) G 1407: type mastaba IX b+e (2); area, 328.8 sq. m.; 2 shafts.

Chapel, (8 g); c.b. vaulted room around the south (chief) niche; door on north; 5.16×2.2 m.; area, 11.33 sq. m.; prop. $1/2.34$.

Relation, $1/29.02$.

See Fig. 179.

(3) G 4410: mastaba IX a (1); area, 220.25 sq. m.; 1 shaft.

Chapel: exterior stone chapel built against the east face at south end; with subsidiary north niche cut in mastaba at north; construction of u-masonry containing offering-room and serdab; 5.1 × 1.55 m.; area, 7.91 sq. m.; prop. 1/3.29; with exterior c.b. corridor: 5.55 × 1.65 m.; area, 9.15 sq. m.

Total area, 17.06 sq. m.

Relation, 1/27.84.

Dated to Weserkaf or Sahura.

See Fig. 180.

(5) *Exterior Open-air Chapels of Type (9)*

The open-air chapel is the oldest type used for Egyptian tombs, and down nearly to the end of Dyn. II it was the only type used. The early large mastaba of Dyn. I presented three forms: the four-space chapel which surrounded the whole mastaba within an enclosing wall, the chapels of small mastabas surrounding the double niche (Tarkhan), and the chapel not marked off from the areas around except by the walls of other mastabas. In the crowded cemeteries of Dyns. II and III the open-air chapels were reduced to corridor form marked off by the surrounding mastabas supplemented by such walls as were necessary to complete the limits of the offering-space. This open-air type of corridor chapel continued in the great Giza Necropolis, but here an enclosing wall or partial wall was rarely used. Instead, the open-air corridors were often converted by later walls into exterior roofed chapels of type (8). The open-air chapels like the roofed exterior chapels of corridor form utilized the offering-niches of the mastaba. The roofed exterior corridor chapels were in fact modifications of the open-air chapel. Both cover the eastern façade of the mastaba, and type (9) presents the same variations as type (8 a-d).

Type (9 a): with single pair of niches.

In Cems. G 1000-1600: 36 chapels.

Mastaba of type X c: 22 chapels; 30.73 to 4.16 sq. m.

X d: 2 chapels; 28.22 to 19.42 sq. m.

X e: 12 chapels; 76.26 to 2.25 sq. m.

36 chapels; 76.26 to 2.25 sq. m.

Type (9 b): with two or more pairs of niches: 9 examples:

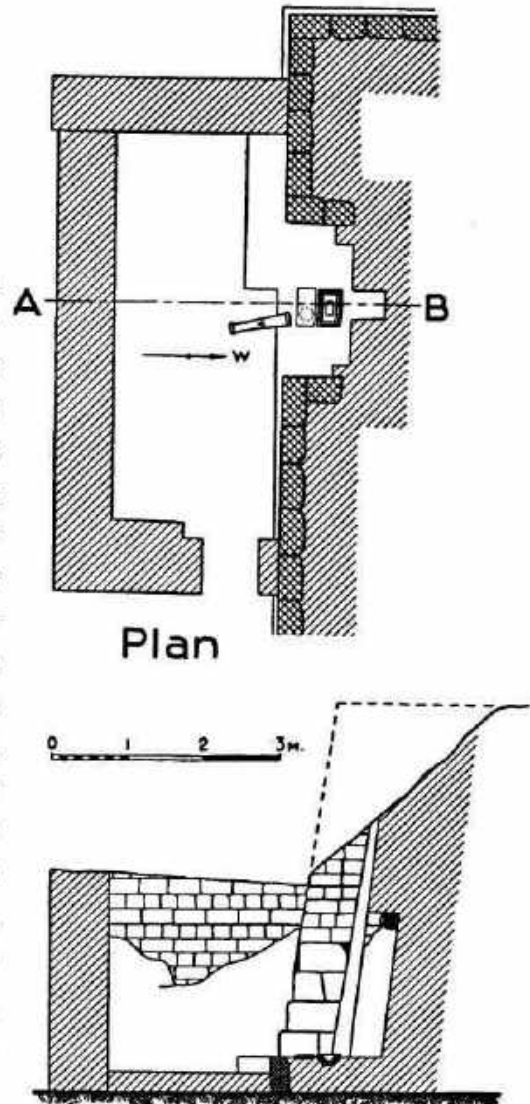
Mastaba of type X e: 9 chapels; 97.9 to 11.9 sq. m.

Type (9 c): with abnormal niche-work.

In Cems. G 1000-1600: 17 chapels.

Mastaba of type X c: 12 chapels; 64.96 to 6.63 sq. m.

X d: 3 chapels; 184.0 to 21.76 sq. m.



Section A-B

Fig. 179. G 1407

Mastaba of type X e: 2 chapels; 46.29 to 14.79 sq. m.

17 chapels; 184.0 to 6.63 sq. m.

Type (9 d): without niches or with no niches preserved.

In Cems. G 1000-1600: 60 chapels.

Mastaba of type XI c: 41 chapels; 192.0 to 2.8 sq. m.

XI d: 16 chapels; 61.54 to 3.04 sq. m.

XI e: 3 chapels; 20.25 to 1.8 sq. m.

60 chapels; 192.0 to 1.8 sq. m.

Total examples of chapels type (9) in Cems. G 1000-1600, 122 chapels, in mastabas ranging in size from 192.0 sq. m. to 1.8 sq. m.

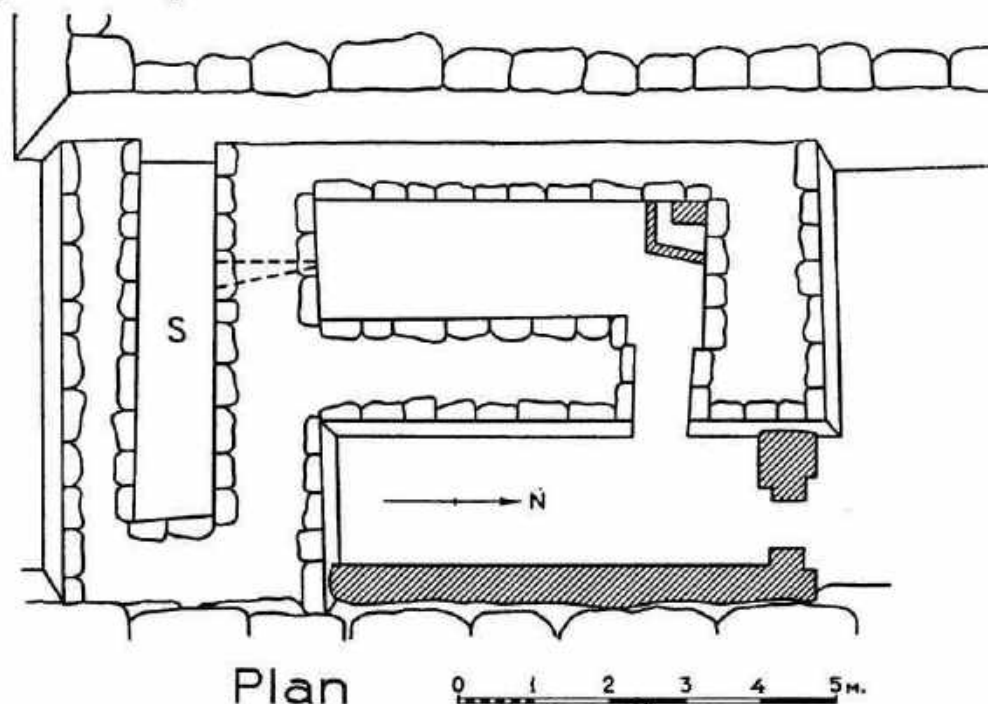


Fig. 180. G 4410

(6) *Interior Chapels of Type (10)*

After the corridor chapel had become the prevailing type of mastaba chapel, a chapel appeared consisting of one square or nearly square offering-chamber with one or two niches in the west wall, entered by a doorway (on north, east, or south), or by a passage corridor. The same form is reproduced in the rock-cut chapel (RC types (v)-(vi)). The mastaba chapel of type (10) presents three variations:

Type (10 a): a room with one or more pillars entered directly by a doorway.

Type (10 b): a similar room entered by a doorway at the end of a corridor.

Type (10 c): a recess room opening on a corridor and separated from it by one or more pillars, which support the roof; has a certain resemblance to type (11 b), but is much smaller and in the southern end of the mastaba; it usually has pilasters in the opening opposite the pillar or pillars.

The squarish offering-room of type (10 a) appears to have been earlier than the other variation, and presents a simple development of the alcove with one or two niches found in examples of type (5 d). In any case type (10 a) is a simple form which might have been developed in the striving for cheapness either in the mastaba or in the rock-cut tomb. The type (10 c) is probably also to be considered as a development of type (5).

Type (10 a): square or nearly square room with one or two pillars supporting roof; with one or two niches in west wall; entered by doorway from outside.

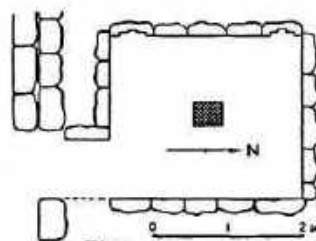
- (1) G 2136: Junker; Kahify; against north end of G 2135.

Mastaba, VIII c; area, 54.05 sq. m.; prop. 1/2.44; 6 shafts.

Chapel, (10 b); square room with one pillar in centre; entered from east at north end of east wall.

3.2 × 2.4 m.; area, 7.68 sq. m.; prop. 1/1.33.

- (2) G 7244-7246: mastaba, type VIII c (1) (composite); area, 49.95 sq. m.; prop. 1/0.4; eight shafts; chapel, 2.5 × 2.15 m.; area, 5.37 sq. m.; prop. 1/1.16; relation 1/9.3; two shallow monolithic stelae in west wall; pillar in middle of room; entered from south by doorway in east end of south wall; partly decorated.



Plan Fig. 181. G 7244

Type (10 b): like (10 a), but entered from end of a corridor.

Examples at Saqqarah; see Steindorff, *Das Grab des Ti*, Pl. I, 'Kapelle'; see also MM C 21.

Type (10 c): recess room, opening on corridor, and separated from it by pillar or pillars and pilasters.

- (1) G 2091: Kapi; mastaba, type VIII c (1); area, 94.36 sq. m.; prop. 1/1.43; 4 shafts.

Chapel: offering-room (a) separated by column and pilasters from corridor (b); 3.0 × 1.8 m.; area 5.4 sq. m.; prop. 1/1.66; room (b), long N-S corridor entered by doorway at north, and with alcove in east wall at south end; 9.3 × 1.05 m.; area 9.76 sq. m.; alcove 1.05 × 1.0 m.; area, 1.05 sq. m.

Total area of rooms a and b, 16.21 sq. m.; relation, 1/6.0. See Fig. 182.

- (2) G 2094: mastaba, type VIII c (1); area, 75.48 sq. m.; 5 shafts; chapel, offering-room (a) separated by pillar and pilaster from corridor (b); 2.15 × 1.5 m.; area, 3.22 sq. m.; prop. 1/1.43; room (b), long N-S corridor entered by doorway at north, 9.05 × 1.5 m.; area, 13.57.

Total area, a-b, 16.79 sq. m.; relation 1/4.49; undecorated.

(7) *The Portico Chapel of Type (11)*

The portico chapel consists of a wide and rather shallow recess in the east façade of the mastaba with the roof supported by one or more pillars. This type of chapel first appears after the middle of Dyn. V, but before the end of the reign of Isesy. It continues in use in Dyn. VI, probably to near the end of that dynasty. The walls of the portico were often decorated, and in general the form presents a resemblance to the pillared portico in which opens the entrance doorway of the complex chapels of Dyns. V-VI. The portico chapel is not as a rule symmetrically placed in the façade but nearer one end.

The variations of chapel type (11) are distinguished by the means of approach to the recess, (a) with an open court, (b) opening on a N-S passage, or (c) opening on a street between two mastabas.

Type (11 a): portico chapel with open court.

Examples:

- (1) G 2375: Akhet-mehuw.

Mastaba, type IX a (2); area, 79.9 sq. m.; prop. 1/1.72.

Chapel, portico chapel of type (11 a), with exterior c.b. court in which was built later the small mastaba of Ankh-ir-ptah.

(a) portico, 3.67 × 1.3 m.; area, 4.77 sq. m.

(b) open court obstructed by intruded structures but originally 9.35 × 8.0 m.; area, 74.8 sq. m.

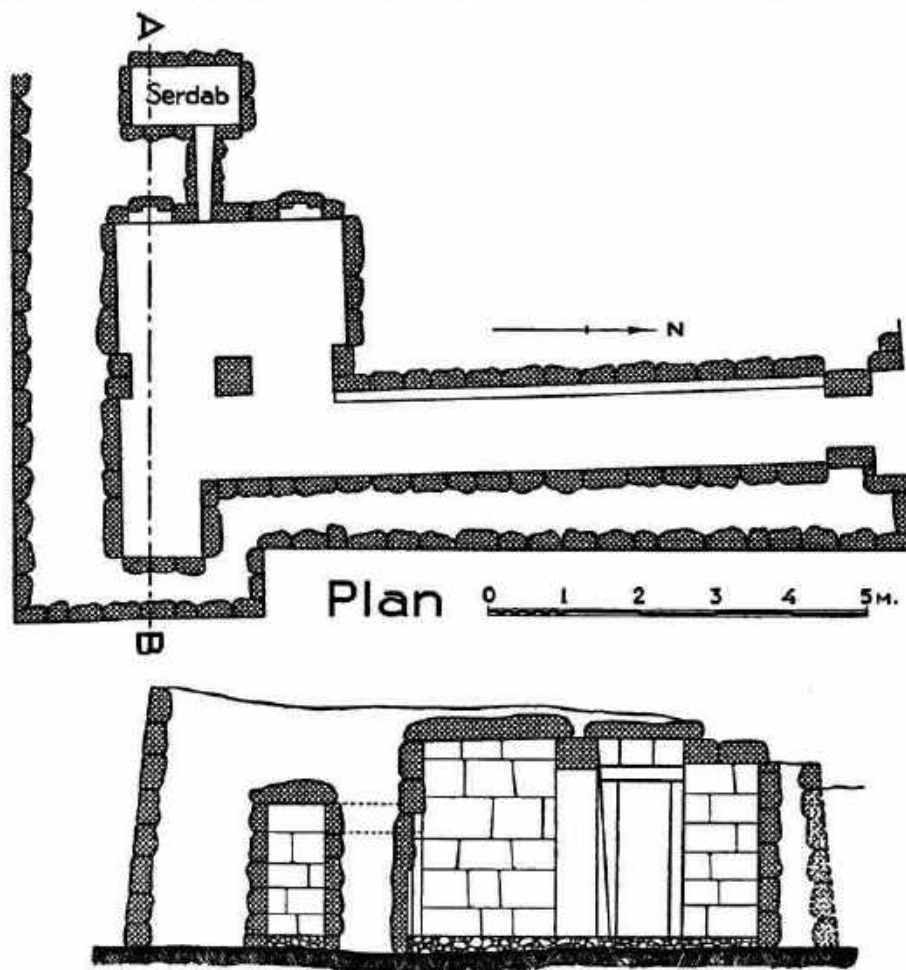
Total area, a and b, 79.57 sq. m.

- (2) G 2001: built on debris against the east face of G 2000, south of chapel; Thetuw.

Mastaba, type IX c (1); area, 27.52 sq. m.

Chapel, type (11 a); with two pillars supporting roof; subsidiary niche north of chapel and another south; with exterior c.b. court entered from north by decorated doorway in east end of north wall.

- (a) portico recess, 4.13×1.2 m.; area, 4.95 sq. m.; prop. 1/3.42.



Section A-B Looking North

Fig. 182. G 2091

- (b) formed by c.b. on north and east; 7.3×3.05 m.; area, 22.26 sq. m.

Total area, a and b, 27.21 sq. m.

Portico of white limestone decorated with painted reliefs. See Fig. 183.

- (3) G 2004: on independent site.

Mastaba, type IX c; area, 63.51 sq. m.; prop. 1/1.19.

Chapel, type (11 a); with three pillars supporting roof; one niche in chapel; exterior stone court entered from east, north of middle.

- (a) portico recess, 6.15×1.5 m.; area, 9.22.

- (b) court, 7.15×1.15 m.; area, 8.22 sq. m.

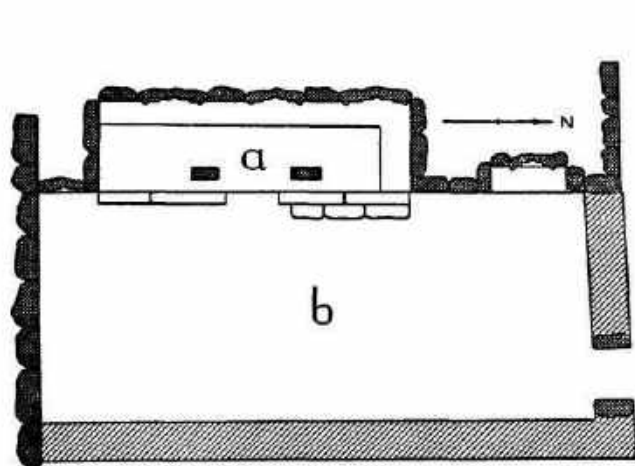
Total area, a and b, 17.44 sq. m. See Fig. 184.

Type (11 b): portico chapel as (11 a) opening on a N-S corridor or a connecting passage.

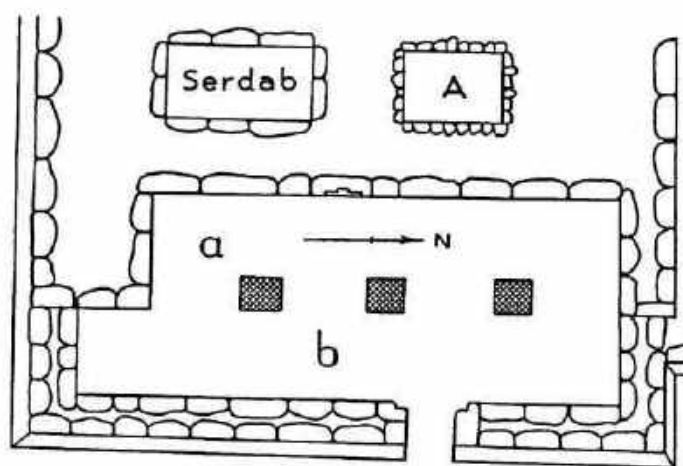
- (1) G 4513: built against the south end of G 4510 and west of G 4512 and G 4517.

Mastaba, type IX c (1); area, 53.81 sq. m.; prop. 1/1.95.

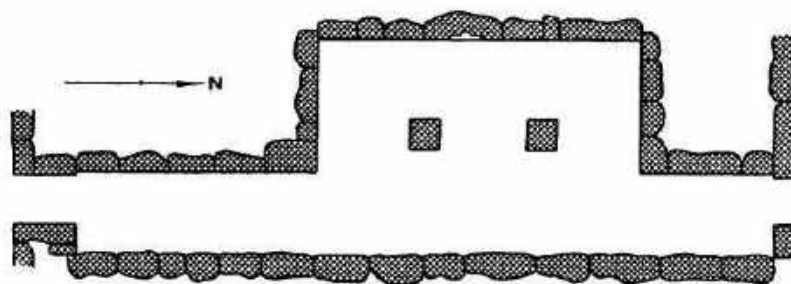
Chapel, type (II b); portico built in recess in east face of mastaba; 4.3×1.75 m.; area, 7.53 sq. m.; prop. 1/2.45; opening on a long N-S corridor which actually gave access to G 4516, the chapel was entered by a roofed corridor along its east and north sides; the corridor from which opened the portico chapel of G 4513 was separated from the corridor of G 4515 by a doorway and was entered by a doorway at its own south end; probably roofed, 9.3×1.05 m.; area, 9.77 sq. m.



Plan 0 1 2 3 4 5m.
Fig. 183. G 2001



Plan 0 1 2 3 4 5m.
Fig. 184. G 2004



Plan 0 1 2 3 4 5m.
Fig. 185. G 4513

Total floor area of portico and corridor, 17.3 sq. m.

One stela in west wall of portico; no decorations. See Fig. 185.

(2) G 2092+2093. Mastaba, type VIII c (1); area, 144.73 sq. m.; prop. 1/1.32; 8 shafts.

Chapel, offering-room opening from middle of west wall of corridor, 4.15×2.25 m.; area, 9.33 sq. m.; prop. 1/1.84. One pillar found displaced, no pilasters. Corridor N-S, 9.1×1.05 m.; area, 9.55 sq. m.

Total area, 18.88 sq. m.; relation, 1/7.66. See Fig. 186.

Type (II c): portico chapel without court, opening on street.

(1) G 2414: mastaba type, IX c (1); area, 33.66 sq. m.; prop. 1/2.91.

Chapel, portico chapel in recess in east face, probably with roof supported by two pillars (now missing); with two niches in west wall; c. 7.3×1.8 m.; area, 13.14 sq. m.; prop. 1/3.1. See Fig. 187.

- (2) G 2371: mastaba of type IX e (1); overbuilt by G 2370; area, 283.35 sq. m.; prop. 1/1.81.

Chapel, portico chapel lined with nummulitic masonry; pillars not found; measurements not exactly recovered.

(8) *Complex Chapels of Type (12)*

The interior chapels consisting of two or more rooms do not appear until Dyn. V. All their wall spaces were available for decoration in relief or painting, and it may be assumed that the design in each

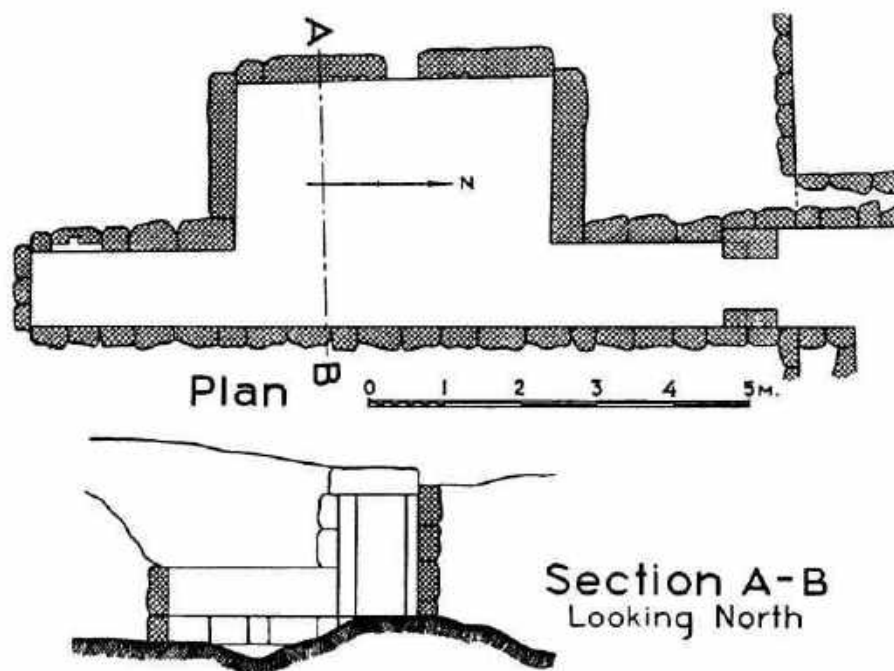


Fig. 186. G 2093

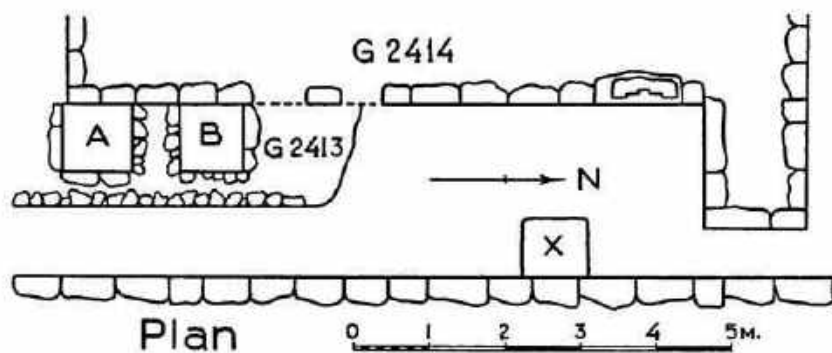


Fig. 187

case included the complete decoration of the walls, although the decoration was rarely completely carried out. These multiple-roomed chapels present the maximum reached by the Egyptians of the Old Kingdom in the decoration of mastaba chapels. The first step in this direction was the addition of exterior stone rooms (decorated or available for decoration) in the twin-mastabas of Cem. G 7000. This was at the end of the reign of Cheops or a little later. The next was the introduction of the great rock-cut tombs of the family of Chephren in the Cheops-Chephren Quarry, and these appear to have combined the interior and exterior stone chapels in a large interior apartment, of type RC (i). The rock-cut tombs developed during the later part of Dyn. IV, and include multiple-roomed chapels like that of Meresankh III, elaborately decorated. During the first half of Dyn. V a number of mastaba chapels were constructed which under the influence of the rock-cut tombs had wall surfaces considerably larger

than the old L-shaped interior chapels of types (3) and (4). These have been described above as chapel types (5), (7), and (10). Corresponding to the interior chapel type (5) an exterior decorated chapel, type (8), was also introduced. The mastabas concerned were largely multiple-shaft or family mastabas. The size of the chapel was necessarily limited to the size of the mastaba. About the middle of Dyn. V certain very large mastabas were made with many rooms nearly filling the mastaba and crowding the part available for burial-shafts into a corner or a narrow strip at the back of the mastaba. A great many of these complex chapels were formed around a nucleus of two rooms (see type (7 c, d, e)): others had a complicated series of rooms and halls around a single offering-room, either a N-S room or an E-W room. In a few cases the chapel served for two or three persons of the same family, each with a separate complex of rooms, and one at least of the secondary chapels had been added later.

The complex chapel may also be formed by the connexion of a number of mastabas built separately with exterior chapels. The three chief examples of composite complex chapels at Giza are (1) the Shepseskaf-ankh complex (G 6010-6040), (2) the Senezem-ib-Yenti complex (G 2370-2387), and (3) the Rawer complex excavated by Professor Selim Bey Hassan in the Cheops-Chephren Quarry.

Each of the great complex chapels has a plan of its own. The great complexes mentioned above consist of separate chapels, and each of these also is built on an individual plan. In examining them for common features as a basis of classification, it is seen that groups may be isolated which contain an E-W offering-room and others which contain a N-S offering-room, but still others have offering-rooms of both forms. Thus it becomes practically impossible to subdivide type (12), and I am reduced to listing them together.

- (1) G 6040: Shepseskaf-ankh; built on independent site with G 6020, G 6030, and G 6010 added on south.

Mastaba type VII a, converted into type IX a; area, 144.3 sq. m.

Chapel: interior offering-room of type (4 a), converted into a serdab; large exterior chapel built on east face of mastaba, consisting of rooms (b), (c), (d).

- (a) first offering-room of type (4 a); 2.75×1.13 m.; area, 3.1 sq. m.; prop. 1/2.43; with two niches in west wall; entered from east by doorway in north end of east wall; converted into serdab by blocking the doorway.
- (b) open-air corridor chapel bounded on east by high wall with rounded top; 9.9×1.1 m.; area, 10.89 sq. m.; prop. 1/9.0; with two niches in west wall; with serdab in south wall; entered from east from room (c), by doorway in north end of east wall.
- (c) small nearly square vestibule, roofed; 2.3×1.0 m.; area, 2.3 sq. m.; room enlarged by embrasure of door to room (b), 1.8×0.78 m., area, 1.4 sq. m.; total area, 3.7 sq. m.; entered from north by doorway in north wall from north (outside); doorway to (b) in west wall, doorway to open court (d) in south wall.
- (d) open court of nummulitic limestone, with pillared colonnade along north and east sides; open court, 7.95×3.6 m.; area, 28.62 sq. m.; north pillared colonnade, including pillars and eaves, 2.4×2.2 m.; area, 5.28 sq. m.; east pillared colonnade, 10.15×1.6 m.; area, 16.24 sq. m.; total area of court (d), 50.14 sq. m.

Total area, b-d, 64.73 sq. m.

Total area, a-d, 67.83 sq. m.

- (2) G 6020: Iy-mery; on independent site with exterior chapel enclosing south end of G 6030; with G 6010 added on south.

Mastaba: two-niched mastaba of type IX a; area, 224.77 sq. m.

Chapel: exterior chapel of type (8 f), of nummulitic limestone, built around chief (southern) niche; consists of three rooms and long serdab; rooms fully decorated; also court.

- (a) N-S offering-room with south niche of mastaba north of middle of west wall; 3.9×1.4 m.; area, 5.46 sq. m.; prop. $1/2.78$; entered by doorway in north end of east wall from room (b).
- (b) long E-W corridor; 1.5×6.45 m.; area, 9.67 sq. m.; entered from east from room (c) by doorway in east wall; doorway to offering-room in west wall; doorway to open court (d) in west end of north wall; long serdab parallel to room in south wall connected with room by three slot windows.
- (c) N-S vestibule room; 3.2×1.6 m.; area, 5.12 sq. m.; entered from east, from outside, by doorway in south end of east wall; doorway to room (b) in north end of west wall.
- (d) open court between east face of mastaba north of stone chapel and the back of G 6030; entered by doorway from south, from room (b), by doorway in east side of south wall; 10.4×2.8 m., area, 29.12 sq. m.

Total area, a-c, 20.25 sq. m.

Total area, a-d, 49.37 sq. m.

- (3) G 6010: LG 15: Ptah-nefer-bauw; a mastaba of type VII a with an exterior stone chapel connecting the mastaba with the southern end of G 6020, Iy-mery, father of Ptah-nefer-bauw.

Mastaba type VII a; area, 144.32 sq. m.

Chapel: interior two-niched chapel, room (a); exterior stone chapel consisting of four rooms, open court, and pillared portico.

- (a) interior offering-room of type (4 a) with two painted niches; 3.55×1.6 m.; area, 5.68 sq. m.; prop. $1/2.22$; entered from pillared hall (b) from east by doorway in north end of east wall.
- (b) pillared hall, nearly square; 4.15×3.25 m.; area, 13.48 sq. m.; roof supported by two pillars in N-S row; serdab in south wall; entered from north from (c) by doorway in east end of north wall; doorway to room (a) in embrasure in middle of west wall.
- (c) N-S corridor with vaulted stone roof; 6.35×1.1 m.; area, 6.98 sq. m.; with roof supported by four pillars and architrave on west side; opening into the narrow N-S court (d) by the spaces between the pillars; doorway to (b) in south wall.
- (d) narrow N-S open court along face of mastaba, west of corridor (c); 6.35×1.3 m.; area, 8.25 sq. m.; no subsidiary north niche in mastaba; opening to room (c) between the pillars on the east side; entered from pillared room (e) from north, by doorway in north wall.
- (e) vestibule room north of (d), separated from open court (f) by two pillars and two pilasters; 4.6×1.2 m. excluding the pillars; area, 5.52 sq. m.; entered from east from pillared portico (g) in middle of east wall; opening into court (f) by spaces between pillars; doorway to (d) in south wall.
- (f) large open court west of vestibule (e); 4.35×5.17 m.; area, 22.49 sq. m.; with standing life-size statue of Ptah-nefer-bauw in middle of west wall; entered from east from vestibule (e) by spaces between the pillars.
- (g) pillared portico east of the entrance to the vestibule (e); 3.9×2.07 m., including two pillars in N-S row; area, 8.07 sq. m.; opening to the east; doorway to vestibule (e) in middle of west wall.

Total area, b-e, 34.23 sq. m.

Total area, b-g, 64.79 sq. m.

Total area, a-g, 70.47 sq. m.

Dated to Dyn. V, about end of Neueserra. See Fig. 188.

(4) G 2370: Senezem-ib = Yenty; chapel type (7 c), No. 1.

(5) LG 28: S-ankh-n-ptah: see type (7 c), No. 2 (Fig. 163).

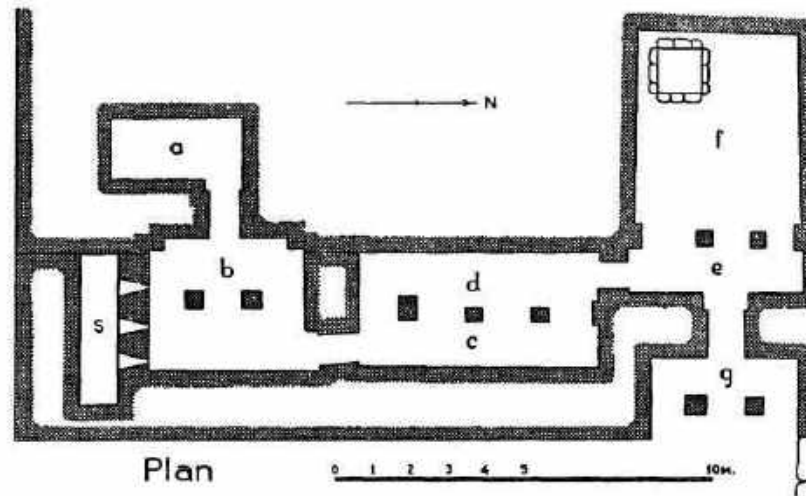


Fig. 188. G 6010

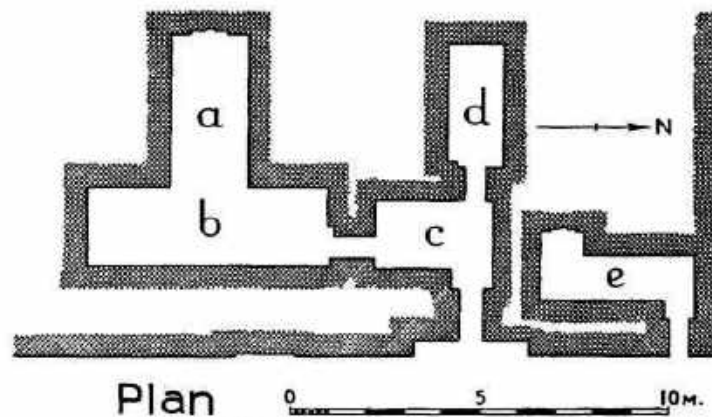


Fig. 189. LG 53-54

(6) G 2385: see type (7 d), No. 2.

(7) G 2175: Inezuw and Khnumnefer; see type (7 d), No. 4.

(8) G 4811+4812: Ptah-ir-ankh; see type (7 d), No. 5.

(9) Saqqarah, MM D 62: Ptah-hotep; see type (7 d), No. 1.

(10) LG 53-54: Seshem-nofer and Hetep-heres; see type (7 e), No. 1 (Fig. 189).

(11) Saqqarah, MM D 64: Akhet-hetep and Ptah-hotep; see type (7 e), No. 1.

(9) *Anomalous Chapels grouped under Type (13)*

After classifying all the chapels known to me at Giza, two chapels remained which could not be entered under any of the types. There may be other anomalous chapels excavated by others at Giza, and for these I reserve the designation chapel type (13).

One of the two chapels to which I refer is that of the c.b. mastaba G 1221, which is certainly of Dyn. IV. The chapel consists of a deep niche in the place of the chief (or southern) niche, lined with stone (decorated), and closed with jambs. It recalls the deep cased niches of the first form of the mastaba of

Neferma'at of Medum, but is smaller. Outside was built an exterior c.b. chapel. This I enter here as chapel type (13 a).

- (1) G 1221: *rh nswt* Shad; mastaba type VIII e (2); area, 468.16 sq. m.; prop. 1/2.02.

Chapel, type (13 a); with exterior c.b. chapel.

- (a) interior chapel with deep compound stone niche in west wall and drum over entrance;
1.2 × 2.55 m.; area, 3.06 sq. m.; doorway afterwards closed by c.b. wall; relation, 1/152.9.

Exterior c.b. chapel consisting of two rooms:

- (b) main room, 2.1 × 3.9 m.; area, 8.19 sq. m.
(c) anteroom, 0.9 × 2.1 m.; area, 1.89 sq. m.

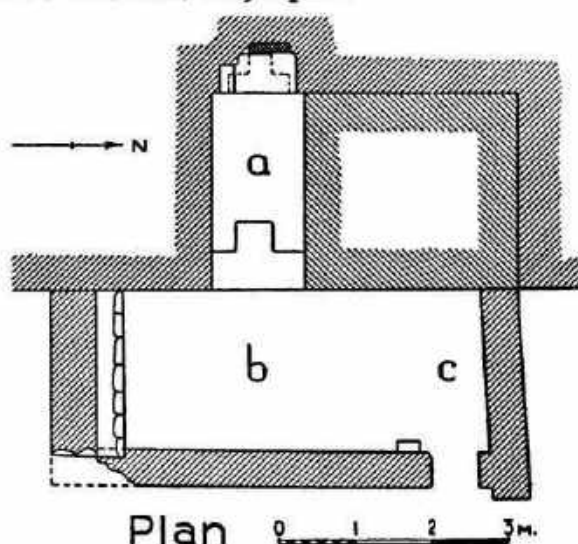


Fig. 190. G 1221

Total area of exterior chapel, 10.08 sq. m.

Total area, (a)-(c), 13.14 sq. m. See Fig. 190.

The other chapel was in G 2197, belonging to Pen-meruw, and certainly of the latter part of Dyn. V.

- (2) G 2197: Pen-meruw; mastaba type X c (2) with area of 48 sq. m.; prop. 1/2.09.

Chapel: deep roofed recess in south end of façade with one niche in its west wall; type (13); 1.0 × 0.8 m.; area, 0.8 sq. m.; connected by slot window with N-S serdab south of south wall, which contained three limestone statuettes (a family group, a triad, and two pair statuettes); on the south wall of the recess is incised an inscription giving the will of Pen-meruw.

e. Development of the Offering-chapel in Dyns. IV-VI

(1) *The Older Forms of Chapels and Mastabas which preceded the Giza Chapels*

The chapels at Giza of the reign of Cheops are based on those of the transition period, Dyns. III-IV (end of Dyn. III and reign of Sneferuw). The latter were in turn developed directly from those of Dyns. I-III (see *Tomb Development*, pp. 256 ff.). The whole series of known chapels from Dyn. I to the reign of Sneferuw presents three main forms, the open-air chapel, the roofed exterior chapel, and the interior chapel of cruciform type. All the chapels down to the accession of Khasekhemuwy appear to have been open-air chapels with more or less well-protected offering-niches.

(a) Open-air chapels:

- (1) The four-space chapel around multiple-niched mastabas (palace-façade or simplified panelling) in Dyn. I; around two-niched mastabas in Dyn. II.

(2) Open-air chapel usually with offering-room and vestibule, around twin niches of Tarkhan mastabas; Dyn. I.

(3) Corridor along face of two-niched mastabas, often closed by low walls at the end; in Dyns. II–III. The last-named, the open-air corridor chapel, persisted throughout Dyns. IV–VI as the cheapest type in a crowded cemetery.

The roofed exterior chapel appears to have been introduced in the reign of Khasekhemuwy or perhaps a little earlier, and continued in use until the accession of Cheops. It also took several different forms.

(b) Roofed exterior chapel:

(1) Chapel covering whole façade of two-niched mastaba:

- i. Simple corridor chapel.
- ii. Corridor with multiple-roomed chapels around the southern niche: begins in reign of Khasekhemuwy.
- iii. Two-room corridor chapel, with wider room around south niche or entrance to south chapel.

(2) Chapel usually one-roomed, around one niche only: late Dyn. III and Sneferuw. The purpose of these exterior chapels was primarily to protect the painted decorations of the façade, but the multiple-room addition provided a storage-place for the funerary utensils, and later for the statue or statuette.

The interior chapel or offering-room was introduced also in the reign of Khasekhemuwy. It was designed as an improvement on the protected niche and amounted to a withdrawal of that niche within the body of the mastaba. As a result it took the symmetrical form of the offering-niche, with the niche itself opposite the doorway. This is the chapel which I call cruciform and divide into three variations according to the type of niche-work in the west wall. Only one of the early cruciform chapels had an asymmetrical entrance, QS 2407, and that actually had two doorways. The valley face of many of the mastabas with cruciform chapel was further protected with a roofed exterior chapel, particularly the mastabas with panelling on that façade. The cruciform chapel was lengthened in the N–S direction, when the custom was introduced, early in Dyn. IV, of decorating the walls with scenes in relief or painted.

All the mastabas to which the above-mentioned chapels were attached were c.b. mastabas, either multiple-niched or two-niched. In the multiple-niched mastaba it was one of the many niches which was actually used as the chief offering-place. In other words, the chapels attached to multiple-niched mastabas were in practice one-niched chapels. The roofed exterior chapels also had one niche, the southern niche, indicated as the chief offering-place, and this niche was actually or theoretically opposite the burial within the mastaba. The interior cruciform chapel replaced the southern niche and was in consequence also a one-niched chapel. The interior one-niched cruciform chapel was characterized not only by its form, but by its position in the SE corner of the mastaba, a position which arose out of the fact that it actually contained the southern niche of the two-niched mastaba. Its doorway opened directly in the façade of the mastaba (usually in an embrasure corresponding to the outer recess of the compound niche), and was connected with the offering-chamber by a passage of variable length, sometimes 2 or 3 m. long. North of the doorway, in the façade of the mastaba, towards the north end, the northern niche of the two-niched mastaba was constructed in the brick-work (hereafter called 'the north subsidiary niche'). The offering-room even after it was lengthened by the introduction of wall scenes occupied only a small part of the mastaba. The relation of the floor area of the chapel to the area of the mastaba varied approximately with the size of the mastaba, from about 1/300 in large mastabas to 1/50 in small mastabas.

The characteristics of the early interior chapels of cruciform type are to be held in mind for the development of the chapel at Giza:

- (1) The position in the SE corner.
- (2) The single niche opposite the doorway, representing the chief offering-niche.
- (3) The symmetrical entrance from the east.
- (4) The subsidiary northern niche.

(2) *The Chapel Types used in finishing the Fifteen Initial Cores of the Three Early Nucleus Cemeteries*

At Giza the introduction of the stone mastaba in the reign of Cheops started a new line of development for mastaba chapels. The fifteen initial stone mastabas of the three nucleus cemeteries in the Western Field were all begun as mastabas or mastaba-cores consisting of a stepped retaining wall of small stones, either filled or solid, with the same proportions as the c.b. mastabas of Dyn. III. These cores differed essentially from the old c.b. mastabas in that the eastern façade contained no niches of any sort. It is uncertain whether these cores were designed to be used as mastabas or to be cased with fine white limestone. At least ten of the fifteen had a slab-stela fixed in an emplacement cut in the retaining wall near the south end, approximately opposite the burial-chamber, that is, the place of the southern niche of the two-niched mastaba. Four of the cores, all with slab-stelae, were uncased, and had an exterior c.b. chapel of type (1 a) built around the slab-stela, which was exposed in a niche in the western wall of the chief offering-room. None of the four had a subsidiary north niche. Four others, two of which had slab-stelae, were cased with fine white limestone with an exterior chapel of the same material, chapel type (2), but the casing and the chapel were only found well preserved in one mastaba (G 2110). The subsidiary northern niche was cut in the casing in the finished mastaba G 2110. The stone chapels of type (2) were completed with subsidiary c.b. rooms of types (1 b) and (1 e). In two cases the c.b. chapel had the slab-stela exposed in the offering-room (cf. type (1 a)), and the stone room south of the stela appeared to have served to contain scenes in relief. Five of the mastabas had received additions of massive core-work (type IV iii), cased in fine white masonry, and intended to contain an interior chapel. Four of these cores had a slab-stela still in place behind the added masonry. Finally, one of the cores cased in fine white limestone had an interior chapel built in a hole broken in the core. Thus the fifteen initial mastabas present six types of chapel:

- (1) The exterior multiple-room c.b. chapel of type (1 a), built around a slab-stela set in the place of the chief or southern niche; four examples: G 1203, G 1205, G 2100, G 4250.
- (2) A similar chapel, type (1 b), built around a slab-stela, but against an exterior stone chapel of type (2 a); two examples: G 4160, G 4260.
- (3) An exterior stone offering-room with one niche; type (2 b), supplemented by subsidiary exterior rooms of type (1 e); two examples: G 2110, G 2120.
- (4) Interior one-niched chapel of type (3 a) in core-work of type IV iii; five examples: G 1201, G 1223, G 1225, G 4150, and possibly G 2210.
- (5) Similar chapel of type (3 a), built in hole broken in mastaba-core; one example: G 2130.
- (6) Interior two-niched corridor chapel, type (5 a), constructed in core-work of type IV iii; one example: G 4000.

All but one of these chapels are one-niched chapels in which the niche is the chief or southern offering-place approximately opposite the burial-chamber, and each of the mastabas contained originally only one burial-place after the manner of the old c.b. mastabas of Dyn. III. The exterior c.b. chapels are attached to the slab-stela at or near the south end of the east façade. Two of these chapels have an addi-

tional exterior stone room, like the rest of the chapels of type (2), attached to the southern niche of cased mastabas of the two-niched form. The interior one-niched chapels type (3) are situated in the SE corner like the cruciform chapels, and have a similar relation between the floor area and the mastaba area. The one finished example, G 2130, had a subsidiary northern niche cut in the casing, and it is probable that the other four were also designed with subsidiary northern niches. The one two-niched chapel of type (5 a), G 4000, is contained in the additional core-work of a two-shaft core, cased in fine white masonry.

The cores of these fifteen initial mastabas were the first to be built in the necropolis. The dates at which they were finished and used for burials are not so certain, and obviously covered a much longer period than the construction of the cores. All but one of the burial-shafts and burial-chambers are lined with fine white limestone, characteristic of the reign of Cheops, and it is probable that all these lined chambers were finished in the reign of Cheops. The forms of the chapels raise two questions of vital importance:

- (1) When was the interior L-shaped chapel introduced at Giza?
- (2) When was the two-niched offering-room introduced?

(3) *The Chapels of the Twenty-eight Succeeding Cores*

The fifteen initial cores in the Western Field were followed by twenty-eight other cores as follows:

- (1) Five cores of type II a in Cem. G 1200.
- (2) Six cores of type II a in Cem. G 2100.
- (3) Eight cores, one of type III and seven of type IV, in Cem. G 4000 (rows 5-6 and lines 3-6).
- (4) Nine cores, one of type III and seven of type IV, in Cem. G 4000 (in row 4, lines 1-7, G 4750 and G 4760).

Of these, seventeen have the lined burial-chamber of the fifteen initial mastabas:

- 5 in Cem. G 1200.
- 1 in Cem. G 2100.
- 7 of the 8 mastabas in Cem. G 4000 (second group, see (c), p. 193).
- 4 of the 9 in Cem. G 4000, in the third group of which 4 had lined chambers and 5 had lined chambers designed but not executed.

Ten of these have slab-stelae and ten contained reserve heads. The finishing of these twenty-eight mastabas is to be dated to the reign of Cheops, while the use for burials probably extended into the reign of Chephren. The chapels of these twenty-eight mastabas as far as preserved are classed as follows:

- Type (1 a): 10 examples: 9 with slab-stelae; 10 lined chambers.
- Type (1 c): 4 examples: none with slab-stela; 3 lined chambers.
- Type (2): 6 examples: 1 with slab-stela; 5 with reserve heads; 4 with lined chambers, and 2 with lined chambers designed but not built.

In addition, three mastaba-cores of this group of twenty-eight had been reconstructed in later times and five had had the chapel otherwise destroyed.

It is clear that during the period covered by the forty-three mastaba-cores of the period dominated by lined chambers, slab-stelae, and reserve heads, the common type of chapel was the exterior one-niched chapel. Obviously from the examples preserved and the width of the N-S streets, it was intended to build exterior chapels for all these cores, leaving uncertain whether these were designed as c.b. or stone chapels. Certainly the cores of type IV i were intended to be cased and to have exterior stone

chapels. The interior chapels arose by means of reconstructions, five by the addition of the core-work of type IV, and one by breaking a hole in a core of type II b. The sealing in the burial-chamber of the mastaba with the interior chapel intruded in the core, G 2130, dates the burial to the reign of Cheops, and it may be concluded that this interior chapel of type (3 a) was constructed before the end of the reign. The other chapels of this type in massive core-work added to cores of type II a and b were also constructed in that reign, probably also towards the end, as three of them were never completely finished.

(4) *The Introduction of the Interior L-shaped Chapel with One Niche in the Twin-mastabas of the Eastern Field*

All the cores in the three nucleus cemeteries of the Western Field were built without any recess for an interior chapel, types II a, II b, III i, and IV i. After the middle of the reign, and after the final plan of the pyramid of the king had been begun, a cemetery of twelve mastabas of type IV i, also without recesses, was laid out in the Eastern Field. The date I estimate at about years 15-17 of Cheops. These twelve were one-shaft mastabas intended to be cased in fine white limestone with exterior stone chapels (like row 4 of Cem. G 4000). Before the original plan could be carried out, the cemetery was altered to contain eight twin-mastabas to be cased in fine white limestone and to have in each two interior chapels of type (3 a) each with a subsidiary north niche. The core of each of the four northern twin-mastabas was composed of two of the original cores connected by massive core-work, and in the case of the man's chapel reconstructed with massive masonry (not stepped). I consider it probable that the interior Giza chapel of type (3) originated in this reconstruction of the eight northern cores of the Eastern Field, and that the interior chapels of the Western Field were later in date. These four northern twin-mastabas were finished in the reign of Cheops, on the evidence of the quarry mark on a casing block. Their construction left the southern row of four original cores of type IV i, much too short to be used as twin-mastabas. As a result a block of core-work was added to the southern end of each to adapt it to the length of a twin-mastaba. This addition was of type IV iii with a chapel recess constructed in the core-work, and these are the first dated cores intended *ab origine* to contain an interior chapel. They correspond closely in date to the four cores of the Western Field for which additional core-work of type IV iii had been begun, but left unfinished. The westernmost of the southern twin-mastabas was finished slightly later than the northern twin-mastabas, but in a similar manner, and while the southern chapel was built in the recess in the southern addition, the northern was in a hole broken in the old core. While the second mastaba from the west was being cased, I presume that Cheops died, for the casing was only just begun. This and the third had only one poor interior chapel, each constructed of c.b. or rubble, in the original chapel recess of the southern addition. The eastern core, completed in the reign of Chephren, had a chapel built in a hole broken in the northern end, while the recess built in the southern end was covered by the casing and filled with stones.

Thus it may be definitely concluded that the interior one-niched chapel came into use towards the end of the reign of Cheops. The position of these interior chapels of type (3), their relation to the mastaba area, their direct entrance from the east in an embrasure in the façade, and the use of a subsidiary north niche, were similar to the cruciform chapels of Saqqarah. They differed, however, in having an asymmetrical entrance with the offering-niche not visible through the doorway. After the introduction of the interior chapel in the mastabas of important persons at Giza, the exterior chapel continued to be used but was attached as before to the chief niche, and used in less important mastabas. All the important chapels after the reign of Cheops were interior chapels. Nevertheless, the cores constructed in the two last nucleus cemeteries, the Cem. en Échelon and Cem. G I S, were built without chapel recess and the interior chapels in these cemeteries were built in holes broken in the old cores.

(5) *The Transition from the One-niched Interior Chapel to the Two-niched Chapel*

The single niche of the exterior chapels of types (1) and (2) is in the place of the chief or southern niche. The single niche in chapels of type (3) represents the chief or south niche of the two-niched mastaba withdrawn within the mastaba. As shown in *Tomb Development* (p. 263), the single niche of the old cruciform chapel also represented the withdrawal of the chief niche within the mastaba in order to protect the painted decoration. Thus the type of mastaba with interior one-niched chapel and subsidiary north niche was based on the two-niched, one-shaft mastaba. The two-niched, one-shaft mastaba had in Dyn. II an open-air corridor chapel. About the time the interior cruciform chapel was introduced an exterior multiple-roomed chapel was also introduced around the chief or south niche as an alternative device for protecting the decoration of the niche and providing subsidiary rooms for the funerary services.

When the stone mastaba cores were built at Giza by Cheops, none of the early examples in the three earlier nucleus cemeteries of the Western Field presented the two-niched façade. It is to be remembered that the royal masons at that time appear not to have solved the problem of constructing a deep compound niche in a stepped wall with steps 8-11 cm. wide. The problem was solved later by inserting a framed monolithic *ka*-door in the face of the stepped wall. Nevertheless, the old core-mastabas used as built had a slab-stela inset in the stepped wall, around which the exterior c.b. chapel of types (1 a) and (1 b) was built. This slab-stela was in the position of chief south niche, and it is obvious that the core-mastabas were conceived as two-niched, one-shaft mastabas. They even reproduced the general proportions of the older c.b. two-niched mastabas. Furthermore, all the mastaba-cores cased with white or nummulitic limestone had two niches in the casing.

The early exterior chapels of types (1 a) and (1 b) at Giza were built around a slab-stela conceived as the south niche of a two-niched mastaba, and those of type (2 b) around the south niche of an actual two-niched mastaba. The interior one-niched chapels of type (3) represent, as already said, the withdrawal of the chief south niche of a two-niched mastaba within the mastaba. The two-niched, one-shaft mastaba appeared in its full form in the stairway mastabas of Dyn. II, in which the chief south niche was opposite the burial-chamber and the minor north niche opposite the upper end of the stairway. All of the early stone mastabas at Giza with chapels of types (1), (2), and (3) were conceived as two-niched mastabas, and all had only one burial-shaft.

The principle that one burial-shaft should be represented by two niches was further exemplified by the old c.b. twin-mastabas, and the five twin-mastabas at Giza in Cem. G 7000. In all these there were either two niches or an interior one-niched offering-room with subsidiary north niche for each of the two burials, man and wife, in the twin-mastaba. The principle was later applied in two-shaft and multiple-shaft mastabas by the use of two or more pairs of niches, one pair for each burial (see chapels of types (5 a), (8 b), and (9 b)).

Thus the west wall of the chapels of types (1), (2), and (3) is actually, or represents, that section of the façade of the mastaba which contained the chief or southern niche of a two-niched, one-shaft mastaba. The west wall of the two-niched offering-room, on the other hand, appears to present a representation of the façade of the two-niched mastaba. Of the two niches in the chapel, the southern represents the chief niche of the two-niched mastaba and the northern the subsidiary north niche. In spite of this symbolic representation of the façade, the two-niched offering-place when of type (4 a) was accompanied by the old traditional subsidiary north niche in the face of the mastaba. The great majority of the two-niched chapels of type (4 a) were attached to two-shaft mastabas. In the later chapels of types (4 b) and (5) the

subsidiary north niche was omitted, and the two niches were used for one, two, or more burial-shafts. In the chapels of types (5), (8), and (9) the west wall has either a nearly full-length representation of the mastaba façade or the façade itself, and these chapels had a variable niche-work, one pair of niches for all burials, one pair of niches for each burial, or even one niche for all burials. I infer that it was the conception of the west wall of the chapel as representing the façade of the mastaba which led to the development of the chapels of types (5) and (8) with their varied niche-work, while in type (9) the offering side of the chapel was actually that façade. In these chapels the principle of one pair of niches for each burial was often replaced by the principle that one or two niches might serve for all the persons buried in the mastaba.

The use of the two-niched chapel depended (1) on the conception of the west wall as representing the façade of the mastaba, (2) on the use of the two burial-shafts in the mastaba, and (3) on the weakening of the principle that each burial should be represented by a pair of niches. Of these points, the introduction of the two-shaft mastaba is the most significant. The mastaba cores of the three nucleus cemeteries of the Western Field had been constructed as one-shaft cores. Four of them had received an annex with one burial-shaft on the north end, and these were thus converted into a sort of twin-mastaba with two shafts. Three of these annex mastabas had a slab-stela on the south, and were being increased in size with a casing and a subsidiary north niche opposite the annex. Several others, to be mentioned later, had received one or more secondary shafts intruded in the body of the mastaba. The twelve original cores of the Eastern Field were also constructed as one-shaft mastabas, but when the two northern rows were incorporated in the four northern twin-mastabas, a new shaft was constructed for the man, and the original shaft left unused. Thus the man's part of these four mastabas presented a fallacious appearance of a two-shaft mastaba. The four southern twin-mastabas which incorporated the southern row of the old cores, increased by additional core-work on the south, had two shafts in the old nucleus core, of which one was the original shaft and the other intrusive. Only one, G 7130 + 7140, was really finished as a twin-mastaba with two pairs of offering-places. The other three, G 7230 + 7240, G 7330 + 7340, and G 7430 + 7440, had only one offering-room. G 7430 + 7440 had, however, two subsidiary niches, one on the north and one on the south. These three mastabas were practically two-shaft mastabas. The next large mastaba in that field, G 7510, probably earlier than the finishing of G 7430 + 7440, had one shaft in the position of the chief shaft of a two-shaft mastaba and appears to have been designed as a two-shaft mastaba. The succeeding thirteen large mastabas were all two-shaft mastabas. Thus in the Eastern Field the two-shaft mastaba appears to have been introduced in the beginning of the reign of Chephren at the latest.

In the Western Field, aside from the annex-mastabas, there were two early mastabas which had or were designed to have two shafts, G 2000 and G 4000. G 2000 was an enormous mastaba of type III apparently designed as a sort of twin-mastaba with two interior chapels and two subsidiary niches. The northern chapel recess had been walled off with a subsidiary north niche in the face of the blocking wall. Like its mate in the Eastern Field, G 2000 had one shaft in the position of the man's shaft in the two-shaft mastaba. This mastaba I assign to the end of the reign of Cheops, a little earlier than G 7510. G 4000 enclosed one of the fifteen initial cores which had been increased by massive core-work and cased with fine white limestone. It had one shaft in the position of the shaft of the owner in the old one-shaft cores and a second shaft for the wife, intruded immediately south of the chief shaft. Of these two mastabas, one was designed as a one-shaft mastaba, and the other as a twin-mastaba.

In addition to G 4000, two other cores of the three nucleus cemeteries had been converted into two-shaft mastabas by the intrusion of a second shaft south of the original 2-metre shaft, G 4840 and G 2150. G 2150 was finished after the reign of Mycerinus and G 4840 was earlier, probably in the reign of Cheph-

ren or Mycerinus. One other early core, G 2100, had received four intrusive shafts made long after the original shaft, and is rated by me as a one-shaft mastaba.

None of the cores in the three early nucleus cemeteries was built as a two-shaft mastaba. The two-shaft mastaba first became common in the Cem. en Échelon, for the majority of the cores in that cemetery were built with two large 2-metre shafts. These two-shaft cores I assign to the latter part of the reign of Chephren, although most of them were finished in the reign of Mycerinus and later, to the end of Neferirkara. The mastabas lying outside the nucleus cemeteries were mostly two-shaft mastabas down to the end of Neferirkara, although one-shaft mastabas still occurred. The three-shaft mastaba also occurred in this period and was in general originally a two-shaft mastaba converted by intrusion. Towards the end of the period, multiple-shaft mastabas began to appear, and thereafter became the common type, especially in medium and small mastabas.

The facts show that the early one-shaft mastabas had one-niche chapels of types (1), (2), and (3). The great majority of the early two-shaft mastabas of the reigns of Chephren and Mycerinus had one-niched chapels of type (3). In the period of one-niched chapels down to the end of the reign of Mycerinus there are five two-niched chapels (see Nos. 1-5, above). The pyramid chapel, G 1-b, was attached to a tomb with a single burial, a queen of Cheops himself. As far as our evidence goes the two-niched chapel was introduced by this chapel, which was actually similar to the mastaba chapels of type (6), a cruciform chapel with two niches. I assume that the two-niched west wall represented the façade of the old two-niched mastaba, but whatever the reason for the adoption of the two-niched form, the example set by the pyramid chapel of a great queen was sure to be followed by other members of the royal family. The other early two-niched chapels belonged to three princes of the blood royal, and to a princess (or to a princess and her mother, a queen). The importance of the persons involved is emphasized by the sizes of their mastabas. G 2000 and G 7510 were enormous constructions, the largest mastabas in the necropolis, one in the Western Field and the other in the Eastern Field. G 4000 was the largest of the mastabas constructed in the three earlier nucleus cemeteries of the Western Field. The smallest of the four, G 7650, was still a large mastaba with an area of 936 sq. m., only a little less than the large twin-mastabas or the mastaba G 4000. In the two decorated chapels, G 7510 and G 7650, the minor northern niche in the chapel was decorated in the name of a princess of the blood royal. G 2000 was designed as a twin-mastaba to contain two burials, although only one shaft was actually used. G 7510 appears to have been designed as an ordinary two-shaft mastaba, as the man's shaft was in the place of the chief shaft in a two-shaft mastaba. The other two, G 4000 and G 7650, were finished one with two shafts and the other with three shafts, of which one was unused. I believe that in the mastaba chapels, following the example set by the pyramid chapel, the two-niched west wall represented the two-niched façade of a mastaba, and this is quite clear in the case of the corridor chapel of G 4000.

After the reign of Chephren, the favoured place for the tombs of members of the royal family was transferred from the Eastern Field to the Cheops-Chephren Quarry south of the Chephren Causeway. These tombs which began in the reign of Mycerinus had rock-cut chapels with one or two shafts sunk in the floor. These chapels, which continued the main line of development at Giza, had one-niched and two-niched offering-rooms with a preponderance of two-niched offering-rooms. One large mastaba, G 5110, in the Western Field, constructed for a son of Chephren in this same period, had also a two-niched chapel of type (6 b), although the mastaba contained only one shaft. The obvious effect of the chapel development in the reign of Mycerinus was to fix the two-niched chapel in use. It is, therefore, not surprising that after the reign of Mycerinus the two-niched chapel of type (4 a) came into common use in the large mastabas of the Western Field. These mastabas were in general two-shaft mastabas.

In these chapels of type (4 a) the west wall with its two niches obviously represented the façade of the two-niched mastaba, but still retained the exterior subsidiary northern niche. It is significant that the decoration of these chapels showed that they were intended for the funerary services of the man and the wife who were buried in the two-shaft mastaba. Thus the subsidiary north niche became superfluous, and in the later two-niched chapels of type (4 b) was omitted.

(6) *The Use of the Rock-cut Tombs instead of Mastabas for Members of the Family of Chephren*

Early in the reign of Mycerinus the members of the royal family of Chephren began to make their tombs in the old Cheops-Chephren Quarry. The rock-cut tomb, sometimes cased or surmounted by a dummy mastaba, replaced the old masonry mastaba of the reigns of Cheops, Radedef, and Chephren.

As I have repeatedly insisted, the main line of development is presented by the tombs of the royal family and of the great nobles connected with the court. The tombs of this class began at Giza with the three nucleus cemeteries of the Western Field and were taken up by the twin-mastabas of the Eastern Field, followed by the six mastabas with massive cores added in the reign of Chephren. With the construction of these mastabas, the Eastern Field became the primary field and the Western Field fell into secondary importance. The tombs of the Eastern Field were followed by the rock-cut tombs in the Cheops-Chephren Quarry, which were also placed in an eastern field, that of the Chephren pyramid. The main line of development runs, therefore, in these rock-cut tombs during the reign of Mycerinus.

The earliest of these rock-cut tombs, type RC (i), being the tombs of members of the royal family, had a decisive effect on the subsequent development of the mastaba chapel. This effect was produced by five characteristic features of the early rock-cut tombs:

- (1) Most of the rock-cut chapels contained two or more rooms.
- (2) The great size of the chapels increased enormously the wall area available for decoration.
- (3) The nature of the rock in which these chapels were cut caused the rapid development of a technique (sized reliefs) which differed essentially from that used previously, for both white and nummulitic stone.
- (4) A great majority of the chapels had two offering-niches.
- (5) The increased wall areas resulted in a considerable expansion of the types of scenes used in chapels; in particular harvest scenes, swamp scenes, picture lists of offerings, craftsmen at work, &c.

The increase in the number of rooms had been begun by six mastabas of the main line of development in the Eastern Field, G I-b, G 7120, G 7410, G 7140, G 7430, and G 7050. These exterior stone chapels were of the same character as the c.b. subsidiary rooms used with chapels of types (2) and (3), and were undoubtedly based on the multiple-roomed c.b. chapel of type (1 a). They had one essential difference in that they increased the wall area available for the carving of reliefs. The exterior rooms of G 7120 were certainly partly decorated with reliefs, and probably all were intended to be decorated. The scenes in these rooms as far as now preserved included scenes from life which were so characteristic of the rock-cut chapels. Thus both the increase in wall space and the expansion of the scenes had begun in these earlier mastaba chapels, and the great increase of size and of reliefs in the rock-cut chapels was a direct development of a movement already begun in mastaba chapels. The technique of making sized reliefs was apparently invented for these rock-cut chapels, and greatly developed by use in their decoration. Even the use of the two-niche offering-room was not new, having already been used in five chapels constructed for members of the royal family. The conclusion is clear that the rock-cut chapels represent

a direct development from the chapels of the royal mastabas of the reigns of Cheops and Chephren, but the features on which they were based were greatly increased in size and in usage in the rock-cut tombs.

(7) *Effect of the Rock-cut Chapels on Mastaba Chapels*

The first effect of the rock chapels of the reign of Mycerinus was that the two-niched chapel of type (4 a) came into common use and that the use of the new sized technique was introduced for mastaba chapels of nummulitic limestone.

The one-niched chapels of type (3) predominated in mastaba chapels down to the end of Mycerinus together with one pyramid chapel with two niches and four mastaba chapels, one of type (5 a) and three of type (4 a), all made for great persons of the royal family. After Mycerinus there were thirteen large mastabas enclosing old cores which were provided with chapels of type (4 a). These included twelve fully decorated chapels. With them are associated at least seven chapels of this type. Scattered through the period from Neferirkara to Isesy are another ten chapels. Contemporaneous with the ten last chapels are recorded seventeen chapels of type (4 b), two-niched chapels without subsidiary north niche. These forty-seven two-niched chapels which followed the reign of Mycerinus show similar sizes, proportions, and relations to the mastaba. The earlier chapels of type (4 a) were of white limestone with the reliefs carved by the old technique. The later chapels of type (4 a) and all those of type (4 b) were of nummulitic limestone, and in all those which were decorated in relief the new sized technique of the rock-cut chapels was used. In fact, after Neferirkara the great majority of the chapels of other types were also built of nummulitic limestone and in these the sized technique was used.

In the period from Neferirkara to Isesy the old two-niched chapel of type (4 a) was degenerating, and at the same time other types of chapels were introduced and came into common use, chapels of types (5), (7)–(12). In these the full effect of the rock-cut chapels is seen in the enlarged wall spaces and the expansion of the wall scenes (see Chapter VIII). Intervening between the rock-cut tombs of the family of Chephren with their expanded wall scenes and the enlarged chapels at Giza stand the great decorated pyramid temples of Weserkaf, Sahura, and Neferirkara, and the enlarged chapels were probably based on the pyramid temples, and thus indirectly on the rock-cut chapels of the Chephren family.

The rock-cut chapels continued in use during Dyns. V and VI while mastaba chapels of types (4 b), (5)–(12) were in use in the other parts of the necropolis. The two sets of chapels affected each other mutually. For example, the mastaba chapel of Prince Duwanera, G 5110, of type (6 b), was undoubtedly based on the rock-cut chapels of his elder brother, Prince Nebemakhet, LG 86, of type RC (ii c). It is also clear that the rock-cut chapels of type (iii b) were of the form of mastaba chapels of type (4 b), and probably based on their form. It is probable that the simplified chapels of type RC (i c) had some influence on the introduction of the chapels of RC (iv), and also on the introduction of the mastaba chapel of type (5).

(8) *New Types of Chapel introduced in Dyn. V*

At Giza the two-niched chapel of type (4) was succeeded in Dyn. V by new types which presented increased wall areas, the corridor chapels of type (5), many of them decorated, the chapels with E–W offering-room, type (7), and the complex chapels of type (12). These chapels of Dyns. V–VI abandoned the position in the SE corner of the mastaba, although the chief offering-niche was still generally towards the south. In the corridor chapels the entrance became variable, being either from the east or from the end (north or south end). The west wall of the chapel represented the full façade of the mastaba (sometimes shortened by a serdab or shaft), and the subsidiary north niche in the actual façade was no longer used even in mastabas in which the chapel was entered from the east. Another noticeable

change was the decrease in the relation of the floor area of the chapel to the floor area of the mastaba, resulting from the increased size of the chapel. The relation in the mastabas with chapels of the new types varied from about $1/20$ down to $1/3$.

At Giza, after the reign of Neferirkara, the prevailing type of chapel was the corridor chapel in its three forms, the interior corridor of type (5), the roofed exterior corridor chapel of type (8), and the open-air chapel of type (9). In these the west wall clearly represented the façade of the mastaba or was actually the façade of the mastaba. At the end of the reign of Neweserra or soon thereafter, the E-W offering-room was introduced at Giza, with a false-door stela in the west end of the offering-room. This room was derived from the E-W offering-room of the pyramid chapels of Dyn. V with asymmetrical approach. The common form was the two-roomed type with a N-S room, also an offering-room, usually north of the east end of the E-W room, and entered from the east or north. Several large chapels consisted of a number of rooms built around a two-roomed nucleus of type (7 b). A number of variations occur in complex chapels with E-W offering-room. The chapel with E-W offering-room containing one false door may be definitely dated as later than the reign of Neweserra, but may be as late as Dyn. VI.

At Giza the chapels of types (5)-(11) did not succeed one another in turn, but were used simultaneously in Dyns. V-VI.

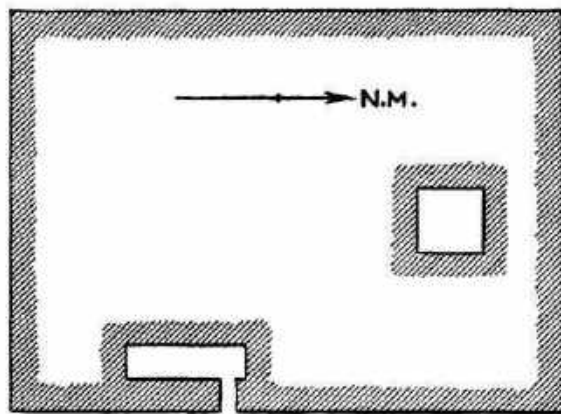
(9) *Contemporary Development of the Chapel at Saqqarah*

At Saqqarah the development of the chapel parallel in time to that of the Giza chapels followed a somewhat different course. One-third of the ninety chapels recorded by Mariette for Dyns. IV-VI were cruciform chapels or modified cruciform chapels with the flattened west wall. These were as a rule in the normal position in the SE corner with symmetrical entrance from the east and, as far as sufficiently recorded, with subsidiary north niche. With the exception of one very late example (D 55), all had a single niche or shallow stela in the middle of the west wall. The modified cruciform chapel became the traditional descendant at Saqqarah of the older cruciform chapel and continued in use until the end of Dyn. V or perhaps later. It appears from the defective record that some at least of the mastabas with modified cruciform chapels had no subsidiary north niche.

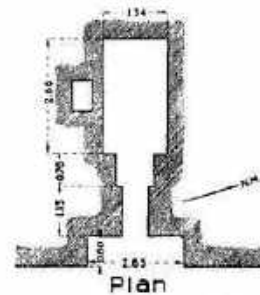
The chapels of Dyn. V at Saqqarah show the modified cruciform chapel as the prevailing type. The general corpus of chapel types differs widely from that of Giza. Type (5) is absent at Saqqarah and the modified cruciform chapel is wanting at Giza. There is apparently, however, one type which seems to connect the two groups of chapels, type (4 b). Mariette has recorded twelve chapels, mostly decorated, which present the general appearance of Giza type (4 b) without the subsidiary north niche. Ten of these were one-niched chapels (eight with stela at south end of west wall and two with stela in the middle). Only two were two-niched chapels, and one of these, D 46, had each niche dedicated to a different person. These chapels, with a mean proportion of $1/3.56$, are slightly longer than the modified cruciform chapels ($1/3.0$), and considerably longer than the chapels of type (4 a) at Giza ($1/2.66$). They are in fact short corridor chapels, and their decoration varies from that of the Giza chapels of type (4 a). I believe that these short corridor chapels, labelled Saqqarah (4 b) (see Fig. 191), which range in date from early Dyn. V to early Dyn. VI, were developed independently of the Giza types and that the asymmetrical entrance may have been taken from interior chapels of the Zoser complex and not from the Giza chapels.

While the chapels of Giza type (5) are wanting at Saqqarah, the exterior corridor chapel of type (8) is represented by six examples. These, however, appear to have been derived not from the Giza chapels, but from the exterior corridor chapels of the old c.b. mastabas at Saqqarah.

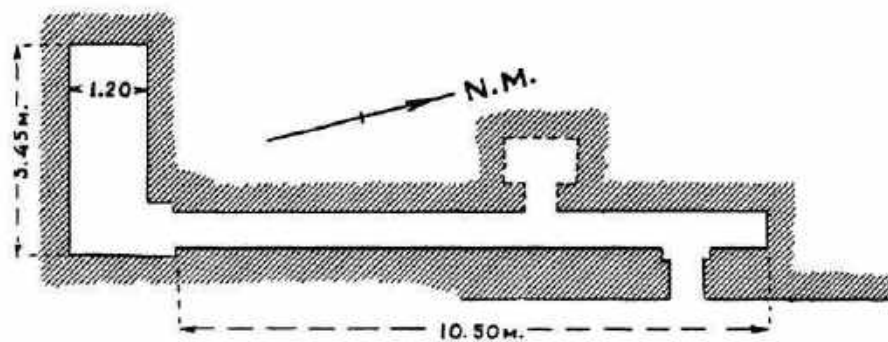
A second type of chapel subsidiary to the modified cruciform chapel is type (7 a (1)) (see Fig. 192). This chapel resembles in position, in the asymmetrical entrance from the east, and in relation, the cruciform chapel, and is in fact a symmetrical cruciform chapel itself, but with a one-niched E-W room instead of a N-S offering-room. There are only three of these remarkable chapels, and they are all later in date than Neueserra. Noteworthy is the fact that six of the one-niched E-W offering-rooms (type 7 a (3)) (see Fig. 193) have the normal position in the SE corner, but instead of opening from the east by



Plan
Fig. 191. C 19



Plan
Fig. 192. D 60



Plan
Fig. 193. D 53

a doorway are entered at the east end of the north wall by a long narrow corridor passage which debouches in the north face of the mastaba or at the north end of the east face. One of these corridors (D 53) has a small subsidiary chapel of modified cruciform type in the corridor passage towards the north end of that passage.

The Saqqarah mastabas with the chapel in the normal position of the type cruciform and modified cruciform, supplemented by those with chapels of type (4 b) and type (7 a (1)), amount to a total of over half (about forty-seven) of the mastabas recorded by Mariette. The Giza types (3) and (4 a) are not definitely represented at Saqqarah, although two, D 22 and D 33, might be classed under these types. All but two or three of these forty-seven chapels are one-niched. Beginning about the end of the reign of Neueserra or a little later, a considerable increase in size takes place, marked by the use of the E-W offering-room. The number of chapels including all the variation of type (7) is twenty-four (the same as the modified cruciform chapels). It was in the period of the E-W offering-room towards the end of Dyn. V and the beginning of Dyn. VI that the great complex chapel became frequent, and many of

these had one or more E-W offering-rooms. Some of these complex chapels were composed of groups of rooms each devoted to the funerary service of related persons (husband, wife, son, &c.). Each of the groups in these family complexes had one or two offering-rooms, sometimes of the N-S type and sometimes of E-W form. It is the complex chapels of Saqqarah and Giza which represent the final effect of the Giza rock-cut tombs on the size and the expansion of the wall scenes.

(10) *Summary: Chronological Order of the Chapel Types at Giza and Saqqarah*

The chronological series of the chapels at Giza and Saqqarah is set forth in the following table:

Giza	Saqqarah
(1) Dyn. IV to end of Mycerinus; types (1), (2), (3), (4 a), and one of type (5 a); few examples of type (6).	Dyn. IV; types, true cruciform, modified cruciform, and type (8).
(2) From end of Mycerinus to end of Neferirkara; prevalence of type (4 a); introduction of type (5) in small mastabas.	Modified cruciform chapels.
(3) Dyn. V, after Neferirkara; types (4 b), (5), (8), and (7).	Modified cruciform chapels; types (4 b) and (7).
(4) End of Dyn. V and Dyn. VI; types (5), (8), (7), (10), (11), and (12).	Modified cruciform; types (7), (10), and (12).
(5) The one-niched chapel predominates from Cheops to Mycerinus.	The one-niched offering-room predominates, Dyns. IV-VI.
(6) The two-niched chapel began early in Dyn. IV for members of royal family, was extended in use in the rock-cut chapels of the family, and came into general use thereafter in chapels of types (4 a), (4 b), (5 a), and (8 a).	The two-niched offering-room was not in common use: only a few sporadic examples occur.
(7) The new scenes of the rock-cut chapels became common in types (5) and (7).	At Saqqarah, the new scenes appeared in types (4 b), (7), and (12).

The differences in the development of the chapels at Giza and at Saqqarah prove conclusively that the chapels were developed from a different basic form and by two separate sets of craftsmen. The chief feature common to the two was the E-W one-niched offering-room, derived by both sets of workmen from the pyramid chapels of Dyn. V, but the development of this chapel was far from similar at the two cemeteries.

VIII

THE DECORATION OF THE CHAPELS

THE various types of chapels have been considered in Chapter VII. The consideration is not complete, however, until the decorations (reliefs or paintings) have been examined and compared. Furthermore, the use of statues or statuettes must also be taken into account before the final conclusions on the chronology of the finished mastabas can be reached.

1. THE DECORATED CHAPELS OF DIFFERENT TYPES

When Cheops came to the throne, the development of the chapel decoration had already reached a stage which was to determine the decoration of the chapels constructed at Giza under Cheops and his immediate successors (see *Tomb Development*, Chapter X). The painted pattern decoration, derived from the *sh*-pavilion, appears to originate in the early part of Dyn. I and to have been used in all variations of the palace-façade panelling found on mastabas and in interior cruciform chapels down to the reign of Sneferuw. In two examples of this type of decoration, the chapels of Hesy-ra and Kha-bauw-sokar, the inner niche of the great *ka*-door was cased, the one with a wooden panel at the back and the other with stone on the sides, back, and top. Both these casings were carved in relief with figures and inscriptions showing the owner issuing from the *ka*-door or seated at a table of bread. One of these examples is from the beginning of Dyn. III and the other from the early part of the reign of Sneferuw.

About the time of the introduction of figures and inscriptions in relief in the painted palace-façade panelling, or slightly previous, the ordinary *ka*-door began to be decorated with a table scene, carved on the architrave over the inner niche, the so-called primitive niche-stone. These primitive niche-stones range in date from the beginning of Dyn. III, or perhaps a little earlier, down to the reign of Cheops. The scene represented on them was that table scene which afterwards developed into the scene shown on the slab-stela and tablet of the ordinary *ka*-door of plain compound form. The earliest of the fully decorated stone niches of traditional compound form are those of Neferma'at (Medum 16) and Iy-nefer of Dahshur. Both these, dated to the end of the reign of Sneferuw or early in the reign of Cheops, show the beginning of the decoration of the chapels with scenes other than those of the niche itself. The first offering-chapels fully decorated with scenes are the reconstructed chapel of Neferma'at, and the stone-lined chapels of Rahotep (Medum 6), Akhet-hetep, Methen, FS 3078, Peher-nefer, and Akhet-a'a. Some of these are dated to the reign of Sneferuw, but Rahotep and Methen probably to the early years of Cheops. The decoration of the walls of the chapel, other than the west wall, had, however, already appeared at the beginning of Dyn. III in the chapel of Hesy-ra, and an exterior room of that chapel was decorated with a swamp scene painted in colours. Thus when Cheops began the Western Cemetery at Giza, the two forms of the decorated western wall were well developed, and the decoration of the other walls with scenes was being developed in the stone-lined cruciform chapels of Saqqarah and Medum.

a. The Decoration of the Crude-brick Chapels of Types (1 a) and (1 b): Slab-stelae

The c.b. exterior chapels of the reign of Cheops had, as preserved, no other decoration than the slab-stela. The whitened walls might conceivably have been decorated with painted scenes, but in no case was any evidence of such a decoration found on the walls or in the debris. The offering-niche was a simple recess in the west wall of the inner offering-room. The inner recess is not marked in the back

wall of the outer recess, in which is seen only the stepped stone face of the mastaba. Exposed to view in the simple recess, at a height about like that of the tablet in the ordinary *ka*-door, appears the slab-stela fixed in an emplacement in the face of the mastaba. This slab-stela in its form and position bears a resemblance to the primitive niche-stone, except in its beautiful execution, and was obviously derived from that type of carved stone. It may be considered as a direct development of the primitive niche-stone, probably contemporaneous with the development at Saqqarah and Medum of the tablet of the ordinary *ka*-door.

The slab-stela has as its chief feature a table scene in which the owner of the tomb (man or woman) is represented seated at a table of bread (clearly represented as sliced loaves of bread) facing right with the left hand (far hand) on the breast or on the shoulder tie of his or her garment, and with the right (near hand) extended to the table. Across the top of the slab is an inscription giving only the titles and name of the owner. Under the table is the 'ideographic list' (1,000 bread, 1,000 beer, &c.). Above the table and sometimes continued down its right side is the 'short list of offerings'. On the right is an old compartment list ('cupboard list') with lists of linen and other necessities.

The slab-stela set in the face of the core-mastaba stood originally in twenty-five cores, in fifteen cases in c.b. chapels of type (1 a) or (1 b), and in ten cases covered by later constructions. Not all these slab-stelae were recovered, as a number are represented by empty emplacements. The number of slab-stelae actually recovered, whether complete or fragmentary, was fifteen, of which two had one or two fragments only. The stelae actually recovered were as follows:

- (1) In Cem. 1200: eight of the ten cores (excepting G 1209 and G 1233): six perfect slabs, one broken but complete, and one with a weathered strip across the face. Seven stelae found in place, and one in front of the emplacement.
- (2) In Cem. 2100: fragments were found of three slab-stelae: one of a Prince Seshat-sekhentiw(?), from G 2120; near G 2135, right-hand upper corner of another stela, name lost; near G 2155, two fragments, one from the top of a linen list and the other, larger, from the lower edge of the slab from the table to the right border.
- (3) In Cem. 4000: two complete stelae, G 4150 (Prince Yuwnuw) and G 4140 (Princess Merytyetes); fragments of two other stelae, G 4840 (Princess Weneshet) and G 4860 (an official whose name is lost).

Thirteen of these slab-stelae are sufficiently preserved to be classified, eight in Cem. 1200, two in Cem. 2100, and three in Cem. 4000. The classification is given in the section dealing with the development of the tablet scene.

b. The Decorated Stone Chapels of the Three Early Nucleus Cemeteries, Types (2 a), (2 b), and (3)

As pointed out elsewhere, the finishing of the forty-three earlier cores of the three nucleus cemeteries of the Western Field was interrupted in all three cemeteries at a time which I conclude elsewhere coincided with the death of Cheops. As a result of this interruption, and the bad state of the preservation of the chapels in this part of the field, the evidence of the decoration of the chapels is very meagre and most of the better-preserved chapels were constructed after the reign of Cheops. The material is as follows:

- (1) Cem. 1200: three unfinished one-niche interior chapels of stone with no trace of inscription or relief.
- (2) Cem. 2100: the decorated stone chapels are as follows:
 - (a) G 2110: Nofer: exterior L-shaped chapel with one niche, badly destroyed, but reconstructed

from pieces in museums; to be dated between the last years of Cheops and the middle of the reign of Chephren.

- (b) G 2130: Prince Ka-khent (?): interior one-niche chapel, in hole broken in old core; decoration partially preserved; burial in the last few years of Cheops indicates finishing of the chapel at that date.

There were attached to cores of the nucleus cemetery four other decorated chapels:

G 2210: interior chapel, completely destroyed; small fragments of relief.

G 2140: inserted interior chapel of type (3); partly inscribed.

G 2150: cased with z-masonry; inserted chapel of type (4 a); reliefs partly destroyed.

G 2155: Kaninesuwt: cased with x-masonry; chapel built in south addition; well preserved.

And two nummulitic mastabas G 2100-I ann. and 2100-II ann. added successively to south end of G 2100.

These chapels are all later in date than the first two listed above.

- (3) Cem. 4000: the decorated stone chapels are as follows:

(a) G 4000: Prince Hemyuwen: interior two-niched corridor chapel, perhaps unfinished, partly destroyed; fragments of relief.

(b) G 4260: exterior one-niched stone chapel, finished but destroyed; fragments of relief.

(c) G 4240: Prince Sneferuw-seneb: exterior one-niched chapel of stone; decoration of tablet of *ka*-door is the only part executed; rest of walls completely preserved but undecorated.

Other decorated chapels or niches, G 4650 (Yabtyt), G 4750 (Akhi), G 4840 (Weneshet), G 4520 (Khufuw-ankh), G 4710 (Sethuw), are later; other chapels in intrusive mastabas are of Dyn. V.

The decoration of the early stone chapels at Giza shows that while they were decorated with offering scenes and figures, the general lay-out departed from that of the older cruciform chapels by reason of the asymmetrical setting of the niche and the doorway. In the cruciform chapels the walls were extended symmetrically north and south of the medial axis, and the spaces north and south were equal in length. In the one-niched L-shaped chapel at Giza the east and west walls presented two long spaces only. The general result was to reduce the chief scenes in the chapel from six to four and to increase the size of the two chief scenes.

c. The Chapels of the Five Finished Twin-mastabas of the Eastern Field

The decorated chapels which follow on the early chapels of the Western Field are without any doubt the ten chapels in the twin-mastabas of the Eastern Field. Unfortunately, the eight chapels of the four northern twin-mastabas were found nearly destroyed, and they could only be partially reconstructed from the bits found on the broken walls, and from the fragments found in the debris. This reconstruction, which required long and patient work, has been carried out by W. S. Smith, and will be presented in detail in another chapter. The fifth twin-mastaba, the westernmost of the south row of four, had one chapel destroyed like the chapels of the north twin-mastabas, and the other well preserved but not completely decorated. The material is as follows:

(a) G 7110: intended for Hetep-heres II: L-shaped one-niched interior chapel of white limestone; fragments of relief.

(b) G 7120: Ka-wab: chapel as above, with exterior stone chapel; remains of decoration on west wall of offering-room, and fragments from both interior and exterior rooms.

(c) G 7210: wife of Hordedef: chapel as (a) above; fragments of relief.

- (d) G 7220: Hordedef: chapel as (a) above; great *ka*-door and south end of west wall still in place; fragments from other walls.
- (e) G 7310: wife of Ra-bauwf: as (a) above; undecorated.
- (f) G 7320: Ra-bauwf: chapel as (a) above; fragments of relief.
- (g) G 7410: Queen Meresankh II: chapel as (a) above; fragments of relief.
- (h) G 7420: intended for husband of Queen Meresankh II, but unused: chapel as (a) above; exterior stone room; fragments of relief.
- (i) G 7130: Nefert-kauw, wife of Khufuw-khaf: chapel as (a) above; fragments of relief.
- (j) G 7140: Khufuw-khaf I: as (a) above, with exterior stone chapel; decorated parts are: outer doorway, façade on each side of inner doorway, inner doorway, and offering-chapel; other walls of exterior rooms undecorated.

d. The Decorated Chapels of the Eastern Field in Immediate Succession to the Five Finished Twin-mastabas

During the reign of Radedef the finishing of mastabas at Giza was, I believe, carried out only by the owners with private means. I am unable to assign definitely any decorated chapel to that reign. I include as chapels of the reign of Chephren all those immediately succeeding the Cheops mastabas by reason of their position and type forms. I include in this group the five massive core-mastabas first added to the nucleus cemetery, and the mastaba G 7050 of type V. The chapels are all interior L-shaped chapels with one or two niches:

- (1) (a) G 7430+7440: Min-khaf: northern chapel with one niche and exterior rooms of stone and c.b.; inscriptions on *ka*-door architrave, pillar, between statue niches, and on two subsidiary façade niches. Reliefs on east wall of exterior statue room (?).
- (b) G 7510: Ankh-haf: decorated two-niched chapel, partially destroyed; niches in name of Ankh-haf and Hetep-heres.
- (c) G 7650: Queen Merytyetes (?), Princess Merytyetes, and Akhet-hetep: decorated two-niched chapel badly destroyed; niches in name of Queen Merytyetes (?) and Princess Merytyetes.
- (d) G 7540: Queen Hetep-heres II: decorated chapel, type (3 b), nearly completely destroyed.
- (e) G 7050: Queen Nefert-kauw: interior one-niched room and exterior stone room; fragments of relief.

With these must be included the massive core-mastaba G 7350, which was probably finished in the reign of Shepseskaf.

- (2) (f) G 7350: a queen: casing y; decorated one-niched chapel; fragments only; decorated subsidiary niche on north; perhaps as late as the reign of Shepseskaf.

Only two of these chapels present enough reliefs to permit a reconstruction, but these two, G 7510 and 7650, make an important addition to other material of Dyn. IV at Giza.

e. The Decorated Chapels of the Eight Nummulitic Mastabas of Type VI a, built in Immediate Succession to the Massive Core-mastabas in the Eastern Field

Surrounding the massive core-mastabas G 7650 and 7530+7540, on the south and east are four mastabas of 'princes', sons of Queen Hetep-heres II and Ka-wab. They were clearly next after the mastabas of Merytyetes and Hetep-heres II. West of G 7050 stand two similar mastabas belonging to the son and grandson of Queen Nefert-kauw, probably a wife of Cheops. North of the tomb of Prince Ankh-

haf and close to the mastaba of Queen Meresankh II stand two other similar mastabas. All these have one-niched interior chapels built of grey nummulitic limestone decorated in relief by the old technique (not sized relief). These chapels are as follows:

- (1) (a) G 7660: 'Prince' Ka-m-sekhem: decorated chapel with one deep compound niche; badly weathered.
- (b) G 7760: 'Prince' Min-dedef: as (a).
- (c) G 7550: 'Prince' Duwa-ne-hor: as (a).
- (d) G 7750: 'Prince' . . . : as (a).
- (e) G 7060: 'Prince' Neferma'at: one-niched nummulitic chapel with palace doorway including niche in middle of west wall; decorated, but partially destroyed and weathered.
- (f) G 7810: 'Prince' Zaty: as (a) above.
- (g) G 7070: Sneferuw-khaf: as (a) above, with palace-façade niche, decorations on door-jambs, exterior and interior architraves; other wall spaces undecorated.
- (h) G 7820: Iy-nefer (?) and his wife Princess Nefert-kauw.

These chapels were built between the middle of the reign of Chephren and the middle of the reign of Mycerinus. The decorations, partly recorded by Lepsius, are badly weathered, but the general lay-out of the decoration is clear, and the general character of many scenes can be made out. This group of one-niched decorated chapels of members of the royal family of Cheops, mostly grandsons (sons of the older children), presents again an important material for the decoration of the chapels of Dyn. IV.

f. Other Decorated Chapels of the Western Field which may be assigned to the Reign of Chephren or to the End of Dyn. IV

In Cem. 4000 there are three cores which were finished certainly after the reign of Cheops. One of these, G 4650, was probably the last of the eight mastabas of the first addition to that cemetery, and its burial-chamber was never lined although excavated of a size to permit a lining. The other, G 4750, is one of the last of the nine cores finished with burial-chambers of type 2, and was also left unlined. The third was G 4840, in the group of nine mastabas added as the third addition to the cemetery, some of which were used in the reign of Chephren. The decorated part of the chapel of G 4650 was prepared by the funerary priest of the Princess Yabtyt, probably late in Dyn. IV or later. Thus these three chapels can only be dated with reserve.

- (2) (a) G 4750: Akhi: exterior one-niched L-shaped chapel of white limestone; badly destroyed; fragments of inscription on outer and inner architraves, drum, cross-bar of *ka*-door; fragments of south door-jamb, and at least one wall scene.
- (b) G 4840: Princess Weneshet: uncased core of type IV i; on south one-niched L-shaped chapel of nummulitic limestone, uninscribed; fragment of slab-stela; on north monolithic *ka*-door, set against face of core and enclosed in c.b. room; this northern *ka*-door is decorated with relief.
- (c) G 4650: Princess Yabtyt: uncased mastaba of type IV i; against the core a multiple-room c.b. chapel type (1 c); in the western end of a narrow E-W room a stone *ka*-door is set against the core; on the south side another slab forms the side and façade of the outer recess; another stone set in the south wall abutting on the second slab is missing; all stone surfaces decorated with relief; made by the *imy rꜥ hm-kꜣ* Kay, possibly towards the end of Dyn. IV.

The decorations, apart from the fragments of the chapel of Akhi, consist of decorated stelae built or set against the face of the core.

g. The Decorated Rock-cut Chapels of the Quarry Cemeteries

In the reign of Mycerinus the members of the family of Chephren began to utilize the Cheops-Chephren Quarry for rock-cut tombs. These tombs while attempting to maintain the outward appearance of mastabas presented a radical departure from the chapel forms of the older mastabas. The chapels excavated in the solid rock and decorated with sized reliefs presented a notable increase in all areas, and in the expansion of the types of scenes. Many of the tombs even of queens and children of Chephren were left undecorated or only partly decorated. The chapels which are of importance for the history of the decoration of the chapel are as follows:

- (a) LG 87: Prince Ne-kauw-ra: two niches in inner offering-room; decorations on walls of chambers partially obliterated.
- (b) LG 90: Debehen: two niches in west wall of room (b); decorations on all walls of room (b), and on north wall of room (a); long inscription on east wall of room (a) recounting the making of the tomb with the assistance of Mycerinus; east and north walls of room (b) are nearly entirely destroyed.
- (c) LG 89: Prince Sekemkara: two niches in western wall, walls decorated; scenes partly obliterate inscription inserted later giving names of Chephren, Mycerinus, Shepseskaf, Weserkaf, and Sahura.
- (d) LG 12: Prince Nebemakhet: his first unfinished chapel west of Second Pyramid; decorations weathered.
- (e) G 7530: Queen Meresankh III: outer room (a) with single false door at south end of west wall, and all other wall spaces including pillars decorated with reliefs; room (b), false door in middle of west wall flanked by palace façade on each side, and with wall spaces decorated with scenes, one of which is unfinished; room (c), ten rock-cut statues of Hetep-heres II, Meresankh III, and three daughters of Meresankh III, with inscription above.
- (f) MQ 1: Prince Khuwnera: two niches in west wall of (b); room (a), south wall and south half of the east wall decorated with scenes; all other walls undecorated.
- (g) LG 88: Queen Per-sen(t)?: one-niched offering-room; no decorations; inscription on pillar.
- (h) LG 86: Prince Nebemakhet: his second tomb in the old Cheops-Chephren Quarry; two recesses in west wall of inner room each containing two *ka*-doors in west wall; other walls decorated, but partially obliterated.

A few had inscriptions which gave the titles and names of the owners inscribed on drums or architraves. Others had one or more pillars decorated with reliefs, but none of these was sufficiently decorated to be used in considering the chapel decoration as a whole. The quarry continued to be used during the end of Dyn. IV, throughout Dyn. V, and probably to the end of Dyn. VI. Some of these later tombs had decorated walls, but for the present purpose the early decorated rock-cut tombs listed above are those which are of importance for the development of the chapel decorations.

h. The Decorated Chapels of Types (3) and (4 a) of the End of Dyn. IV and the First Half of Dyn. V

The chapels of the mastabas continued to develop on the lines of the old L-shaped chapels during the period in which the rock-cut chapels were developing, and for some time showed no effect of the expan-

sion of walls and scenes developed in the rock-cut chapels. The chapels of the one-niched form, type (3), which I assign to the period in question, are as follows:

- (a) G 7560: no name: mastaba of type VI a; interior chapel of type (3) of white limestone, fully decorated, but partially destroyed.
- (b) G 4710: Sethuw: mastaba of type VI a; enclosing an old core of type IV i; interior chapel of type (3); of mixed white and nummulitic limestone; partially decorated and well preserved.
- (c) G I S No. 3 (Junker): Prince Khufuw-dedef: mastaba type VI made by casing an old core of type IV i first with z-masonry and then with x-masonry; interior chapel of type (3) of white limestone bonded with z-casing; exterior stone chapel bonded with x-casing; interior chapel decorated, but badly damaged.

The decorated two-niched chapels of type (4 a) present an important group of the development of the decorations, ranging in date from the reign of Mycerinus of Dyn. IV to the end of the reign of Neferirkara, the third king of Dyn. V, or a little later. The list is as follows:

- (a) G 5110: Prince Duwanera: mastaba of type VIII cased in fine white limestone; interior two-niched chapel of type (6) of white limestone; decorations unfinished and partly destroyed.
- (b) G 2220: no name: mastaba consists of a massive core of type IV iii with chapel recess with unfinished x-casing; chapel of type (4 a) of white limestone bonded with unfinished casing; decoration of east wall begun, but left unfinished.
- (c) G 5080: Seshem-nofer: chief burial in reign of Shepseskaf; mastaba of type VII x, enclosing old core of type II a; interior chapel of type (4 a) of white limestone; fully decorated but partly destroyed.
- (d) G 4940: Seshem-nofer: mastaba of type VII a enclosing old core of type II a; chapel of type (4 a) of white limestone; fully decorated but damaged.
- (e) G 2150: Kanofer: mastaba of type VII b, enclosing old core of type II a; interior chapel of type (4 a) of white limestone fully decorated, but partially destroyed; made after the reign of Mycerinus.
- (f) G 2155: Prince Kaninesuwt (Junker): mastaba of type VII cased with mixed masonry; interior chapel of type (4 a) of white limestone fully decorated and well preserved.
- (g) G 2041: Sennuwka: mastaba of type VII a; interior chapel of type (4 a) of white limestone; west wall only decorated.
- (h) LG 20: Per-sen: mastaba of type VII a; with interior chapel of type (4 a) of white limestone; fully decorated.
- (i) G 7249: Men-ib: mastaba of type VII a; interior chapel of type (4 a) of white limestone; decoration between niches.

The following group contains chapels of nummulitic limestone decorated with sized relief:

- (j) G 2100-I ann.: 'Prince' Mer-ib: mastaba of type VII a; interior chapel of type (4 a), nummulitic limestone; fully decorated.
- (k) G 5150: 'Prince' Seshat-hetep: mastaba of type VII a enclosing a core of type II a; chapel of type (4 a), nummulitic limestone; fully decorated. See (j) above.
- (l) G 4970: 'Prince' Nesuwt-nofer: mastaba of type VII a enclosing old core of type II a; interior chapel of type (4 a), nummulitic limestone; fully decorated, similar to (j) and (k).
- (m) G 5170: Seshem-nofer, son of Seshem-nofer (G 5080): mastaba of type VII a; interior chapel of type (4 a), nummulitic limestone; fully decorated except on doorway.

- (n) G 4920: Thenty: mastaba of type VII a, enclosing core of type II a; interior chapel of type (4 a), nummulitic limestone; fully decorated but weathered.
- (o) G 5030: no name: mastaba of type VII a, enclosing core of type II a; interior chapel of type (4 a), nummulitic limestone; decoration unfinished and partly destroyed.

The above chapels present various similarities in the lay-out of the decorations. The fact that they were built around or attached to old cores permits the presumption that they were older than the chapels in outlying mastabas added farther east.

- (p) G 5340: LG 37: Ka-seza: mastaba of type VII a; interior chapel of type (4 b), nummulitic limestone; partly decorated.
- (q) G 5370: LG 31: Zaty: mastaba of type VII a; interior chapel of type (4 b), nummulitic limestone; south niche decorated.

With these chapels I include a few scattered chapels of various types which, mostly of later date, follow more or less the decoration of the L-shaped chapels:

- (r) G 5210: Khemten: mastaba type IX a; exterior stone chapel of type (8 f); offering-room decorated, with the upper part of the walls destroyed.
- (s) G 5270: LG 32: Rawer: mastaba type VI a; interior chapel of type (3) with one niche in middle of west wall; decoration weathered.
- (t) G 4411: Sekhem-ka: mastaba of type VIII a, with interior two-niched chapel of type (5 a) and vestibule corridor; offering-room of white limestone; architrave and door-jambs decorated.
- (u) G 7391: Iteti: mastaba of type VIII c (1); interior two-niched chapel, nummulitic limestone; decorated.
- (v) G 7152: Ptah-sekhem-ankh: mastaba of type VI a; interior one-niched L-shaped chapel with niche opposite doorway; nummulitic limestone; fully decorated but partly destroyed.

i. The Decorated Chapels of Type (5) of Dyn. V

The L-shaped chapels of types (3) and (4) presented only a limited wall area available for decoration and no scope for variation in the types of scenes except by substitution. These chapels certainly extended well into Dyn. V, but after the reign of Neferirkara, third king of Dyn. V, were largely superseded by chapels of types (5) and (7). The chapels of types (5) and (7) both presented larger wall spaces than did those of types (3) and (4), and it is in the chapels of types (5) and (7) that wall scenes developed in the rock-cut tombs first appear in mastaba chapels. The reliefs in these late chapels were generally made by the sized technique of the rock-cut tombs. The following decorated chapels of type (5) occur at Giza (not a complete list):

- (a) G 1029: Sekhem-ka: chapel type (5 a), nummulitic limestone; decorated, but not completely finished.
- (b) G 3008 (Fisher): Sneferuw-hetep: chapel of type (5 a), white limestone; decoration drawn in red and partially executed.
- (c) G 6030: Iti: chapel of type (5 a) decorated at two ends and roofed only over the decorated parts.
- (d) G 1151: Nefer-ked: mastaba of type VIII a; chapel of type (5 c), nummulitic limestone, decorated on west wall and south wall.
- (e) G 1234: Ankh-haf: mastaba type VIII c; chapel type (5 c), nummulitic limestone; painted scenes with door-jambs in sunk relief.

- (f) Meruwka (Steindorff): south of G 2000: type (5 a) with north pillared portico.
- (g) G 4861: Nofer (Junker): nummulitic limestone; fully decorated.
- (h) G 4561: Ka-m-ankh (Junker): chapel type (5 d); west wall of corridor and walls of alcove decorated; also elaborately decorated burial chamber.

j. The Decorated Chapels of Type (7) of Dyns. V-VI

The chapels of type (7), and in particular the multiple-room chapels with more than two rooms, presented very large wall areas, but very few at Giza appear to have been fully decorated. Moreover, many of these chapels which must have been decorated have been so destroyed that nothing remains of the decoration. One of the best illustrations is the chapel of S-ankh-n-ptah (G 5520: LG 28), where all walls have been denuded to near the floor and whole walls which were lined with white limestone have been stripped of their linings. Other examples show that the walls were not always fully decorated. The list of decorated chapels at Giza which are well enough preserved to be used to illustrate the decoration of the chapel is as follows:

- (a) G 1047: Min-ankh: mastaba of type VIII c; chapel type (7 b); decoration of stela preserved.
- (b) G 2370: Senezem-ib-Yenti: end of the reign of Isesy; mastaba of w-masonry; chapel of type (7 c); three decorated rooms and decorated pillared portico; partly destroyed; pillared hall not decorated.
- (c) G 2378: Senezem-ib-Mehi: reign of Unis; mastaba of w-masonry; chapel of type (7 d); two rooms and pillared portico decorated.
- (d) G 2374: Khnum-enti: reign of Tety or Weserkara; three rooms decorated.
- (e) G 2381: Nekhebuw: reign of Pepy I or Mernera; mastaba of w-masonry; chapel of type (7 c), totally destroyed, but with large number of wall scenes fitted together from stones found in debris.
- (f) G 2175: Inezuw and Khnum-nefer: mastaba with double chapel of type (7 b); partly decorated but badly damaged.
- (g) LG 54-55: Junker, G I S, No. 12: complex chapel of type (7 e), partly decorated.

With these chapels are to be compared the great Saqqarah chapels of Ptah-hetep (MM D 64), and Akhet-hetep Ptah-hetep II (MM D 62).

k. Decorated Chapels of Type (10)

A certain number of chapels of type (10) have decorated rooms which are of interest for comparison. Most of these chapels are of late Dyn. V or Dyn. VI. Most of them are in medium-sized or small mastabas:

- (a) G 2136: Kahify (Junker): small square room with pillar in centre; nummulitic limestone; fully decorated.
- (b) Junker's tomb of the dwarf Seneb; square room with pillar.
- (c) G 2091: Kapi: square room approached by N-S corridor; room decorated but decorations partly weathered.
- (d) G 7150: Khufuw-khaf II: exterior square stone room supported by a pillar; fully decorated but badly weathered.
- (e) G 7246: Khuw-n-Ptah: square room with one pillar, nummulitic limestone; west wall and four sides of pillar decorated.

1. Decorated Chapels in the Shepseskaf-ankh Complex

In the family complex prepared for Shepseskaf-ankh and two other generations of his family, the chapel of a son named Iy-mery is of great importance, and that of his son Ptah-nefer-bauw only a little less instructive. The importance of the chapels arises not only from the decorations themselves, but from the approximate date of the decoration. The chapel of Iy-mery was made in the reign of Neweserra and that of his son after that reign.

- (a) G 6020: Iy-mery: exterior stone chapel attached to the southern niche of mastaba of w-masonry; nummulitic limestone; three rooms fully decorated and well preserved; reign of Neweserra.
- (b) G 6010: Ptah-nefer-bauw: interior two-niched chapel (painted niches) and large exterior chapel; the interior chapel, the square hall in front of it, and one wall of a connecting corridor were decorated; after the reign of Neweserra.

m. Various other Decorated Chapels of Dyns. V-VI, including Rock-cut Chapels

The decorations of the Giza chapels of the chapel types listed above give the general line of the development. For comparison with these chapels I give here a number of complex or anomalous chapels including some rock-cut tombs.

- (a) Mastaba of Neter-puw-nesuwt in the Cheops-Chephren Quarry; over the doorway of a small room (c) is an inscription which proves that the owner lived under Radedef, Chephren, Mycerinus, Shepseskaf, Weserkaf, Sahura, and probably died in the reign of Sahura; a large hall with two pillars is fully decorated with painted scenes.
- (b) G 2184: Akhet-mery-nesuwt: complex chapel resulting from repeated additions to a chapel of type (4); anteroom decorated with painted scenes and exterior corridor partly decorated with paintings and partly by sunk reliefs of white limestone.
- (c) G 2196: Yaseu: large rock-cut chamber fully decorated, with north wall weathered in places.
- (d) G 7837: Ankh-ma-ra: rock-cut chamber enlarged by cutting into older chamber on south; decorated on west, north, and east wall of north room and on east wall of south room; also on door-jambs and façade.
- (e) G 7948: LG 75: Khafra-ankh: one large room; decorated, with scene on north wall nearly destroyed by a room cut north of the main room.
- (f) LG 63: Ka-m-nofret: one chamber fully decorated.
- (g) G 7102: Yeduw: rock-cut corridor chapel fully decorated; dated to the reign of Pepy I.
- (h) G 7101: Qar: partly rock-cut and partly built chapel; two rock-cut rooms badly preserved, and decoration on white limestone on west and north walls of outer court; same on walls of stairway above ground level; stairway badly damaged; dated also to the reign of Pepy I, probably a generation later than G 7102.

2. THE DECORATED PARTS OF THE L-SHAPED CHAPELS

The decoration of the L-shaped chapels at Giza was obviously based on that of the cruciform chapels at Saqqarah and Medum, and must be compared with the decorations of those chapels. This is particularly true of the decoration of the offering-niche or *ka*-door. A certain difference was introduced by the alteration of the position of the niche, and another alteration when the two-niched chapel was introduced. The parts of the chapel which were found decorated included the doorway and the façade

in the embrasure of the doorway. The parts here enumerated were not always decorated and many chapels were left unfinished or found partly destroyed. The parts which are to be considered as potentially decorated parts are as follows:

- (a) The architrave over the entrance doorway: in both types of L-shaped chapels and all other chapels.
- (b) The large drum over the outer doorway: in all chapels but sometimes omitted in small late chapels.
- (c) The façade panels, on the back of the doorway embrasure on each side: in all chapels with doorway embrasure but not always present.
- (d) The two jambs of the doorway itself: in all types of chapels; more elaborate in chapels of types (3) and (4); often left undecorated in small late chapels.
- (e) The scenes on the chapel walls.
- (f) The *ka*-door itself or each *ka*-door in a chapel.

a. The Architrave over the Entrance Doorway

The earlier architraves present only the titles and names of the owner, arranged in horizontal or vertical lines. Slightly later the inscription gave an offering formula with a figure of the owner on the left end of the architrave:

- (1) With titles and name:
Methen, Rahotep, Meresankh III.
- (2) With offering formula:
Min-khaf: seated at table of bread.
Sneferuw-khaf: seated with staff; genealogy.
Sethuw.
Mer-ib.
Debehen.
Min-Yuwen: seated with staff.
Ankh-ma-ra (G 7837).
Nesuwta'at (G 7838).
Sekhem-ka (G 4411).
- (3) With offering formula over subsidiary niche:
Min-khaf: north subsidiary niche, with standing figure.

b. The Drum of Outer Doorway

- (1) With titles and name:
Methen, Peher-nefer, Khuwfuw-khaf, Min-khaf, Sethuw, Mer-ib, Nesuwt-nofer, Sekhemkara, Debehen, Min-yuwen, Meresankh III, Khafra-ankh, Sekhemka.

It may be assumed that every tomb of the cruciform type and of the L-shaped type had an inscribed architrave, and an inscribed drum over the doorway of the offering-room and over every other doorway.

c. The Façade Panels on Each Side of the Outer Doorway

The façade panel first occurs in the early cased niches on each side of the offering-niche itself. In one of the cased niches of Iy-nefer the façade panel on each side bears an offering scene, standing figure with staff and wand facing in, with a table of bread and an offering formula in front of him. In the cased

niches of Neferma'at and Atet the façade panel on each side shows a family group, all facing in. At Giza the façade panel is in the embrasure of the outer doorway, not in all mastabas, but in a fair number. The chief figures continue to be drawn standing and facing in, and the representation is usually a family group, which may, however, include personal attendants, or more rarely men bringing the funerary meal. The examples at Giza include the tombs of Khufuw-khaf, Merytyetes, Ka-m-sekhem, 'Prince' Zaty, Iy-nefer (?), Mer-ib, Kanofer, Ankh-ma-ra.

d. The Door-jambs

On the jambs of the entrance door the figures of the owner or the owner and wife are always facing out, either seated or standing. In the long entrance-corridor of the early stone-lined cruciform chapels a considerable space was made available for representations.

- (1) Methen: a long continuous inscription in vertical lines with signs facing in covered both jambs, with a vertical row of three estates facing in on the outer end of each wall; just inside the inner end on the east wall of the offering-room is a standing figure of M. facing out; on the north with *wṯ*-priest and *hm-k* in front of him, and on the south with two men bearing young animals in front of him.
- (2) Rahotep, Medum 6: on the inner end of each jamb R. and wife standing facing out; R. with staff and wand and wife in attitude III; on the north 'viewing the netting of fowl' and a bird-netting scene; on the south 'viewing the stockade and the stalls', with hunting scene and men bringing cattle.
- (3) FS 3078: on each inner end, man standing with staff and wand facing out; scene in front destroyed except for lowest register, which shows men bringing funerary meal, and one figure in second register.
- (4) Peher-nefer: short door-jambs; on each side P. standing with staff and wand with titles and names.

The long spaces in No. 1 above were utilized for inscriptions such as occurred inside on the top of the west wall, but if the figures just inside be included, then the decoration has some resemblance to that of later jambs. In No. 4, owing to the shorter space, which is about that of the Giza chapel, the decoration is reduced to a single figure standing with staff and wand. In Nos. 2 and 3 the scenes are similar to those found on the walls of the chapels.

At Giza the pictures on the door-jambs continue with a standing figure, but introduce early the seated figure.

- (5) Nofer, G 2110: north door-jamb, N. standing with staff and wand facing out; titles and name; in front of him vertical line of four scribes facing in to left; on south jamb, a table scene.
- (6) Merytyetes, G 7650: on each door-jamb man and wife standing facing out; greater part destroyed, but feet of small figure facing in visible on south.
- (7) Sneferuw-khaf, G 7070: on each side of door-jamb S. standing with staff and handkerchief facing out; with large figure of son behind him; on north between S. and staff a small boy.
- (8) Mer-ib, G 2100 ann.: on north door-jamb, man with staff and wand, and small son between him and staff; horizontal inscription in front from left to right, 'viewing the *pṛt hrw* brought from the king's estate', and another line giving ideographic list of animals and birds; under this register two figures, a scribe reading a list of offerings, written on papyrus, and a man carrying a box-tray with three jars of water.

- (9) Mer-ib, G 2100 ann.: on south door-jamb, M. standing leaning on staff; horizontal line, from right to left, 'viewing the sealed supplies brought from the king's estate', and a horizontal line with ideographic list of linen, &c.; under this three children, a daughter standing turned to left with head turned back, left hand on father's staff and lotus in right hand, a son squatting with one knee up, holding papyrus roll against breast with right hand, and left extended open, a daughter in the same attitude without the papyrus roll.
- (10) Debehen, LG 90: north and south door-jambs, D. standing with staff and wand; between him and staff, a girl on the north and a boy on the south; behind him attendants bear personal effects; on north, man with box, man with box and fly-whisk, and a monkey; on the south, man with staff and sack, man with *new* pot (*hm-k*), and a hound.
- (11) Meresankh III, G 7530: north and south door-jambs, M. standing facing out on north, with right hand hanging and left on breast; on south with left hand hanging and right holding up lotus to her nose; behind her on each side two female servants bearing personal effects; on north in front of her in two registers *hmw-k* bring in hyena and oryx; on south the chief *hm-k* Khemten reads papyrus before queen; on each side of top a figure of Anubis lying facing out with offering formula.
- (12) Khafra-anekh, G 7948, LG 75: north and south door-jambs, K. standing with staff and wand facing out, as old man on north, and as young man on south; between him and staff, on north a son and on south two sons.
- (13) Sekhem-ka, G 4411: north and south jambs, S. standing with staff and wand facing out; between him and staff, boy on north and girl on south; on north in front, facing in, two registers.
- (1) a scribe reading a list of the *ndt hr*.
 - (2) *hm-k* priest with ewer and basin, and *hm-k* carrying a wicker tray.

The standing figure is characteristic of the presentation scene, and of the pictures of the man issuing from and entering the grave. In two cases the jamb is actually inscribed 'viewing the *pri hrw* brought from the king's estate', or 'viewing the *htmt* brought from the king's estate', inscriptions which also occur with presentation scenes. A scribe (or scribes) is represented on Nos. 5, 8, 11, and 13. In No. 8 the scribe reads a list of offerings, in No. 11 the accounts of the workmen, and in No. 13 a list of the *ndt-hr*. The chief figure is followed by personal attendants in Nos. 10 and 11. Generally, one child is shown between the man and his staff. In No. 6 the wife stands behind the man, and in No. 7 an adult son. In No. 9 three children are represented outside the staff, and in No. 12 two sons inside the staff.

The door-jamb with seated figure facing out is almost as frequent as that with the standing figure.

Door-jambs with table scene:

- (14) Prince Ka-khent (?), G 2130: north door-jamb destroyed; on south door-jamb lower part of table scene with ideographic list of offerings.
- (15) Nofer, G 2110: south door-jamb, table scene with *t*-bread; above table, a short list of offerings, and below, an ideographic list; on left facing in, three registers of two priests each: reg. 1 (a) *wt* kneeling with both hands clenched, (b) *hry wdb* (?) standing in usual attitude (?); reg. 2 (a) *Hm-k* Ankh with bell censer, (b) *Hm-k* Iy-mery with haunch of beef, and heart-shaped jug on cord; reg. 3 (a) *Hm-k* Per-sen with ewer and basin, (b) *Hm-k* Mesy with towel and jar of ointment on cord; on the north jamb N. is standing (see No. 5 above).

- (16) Ka-m-sekhem, G 7660: on both door-jambs, K. and wife seated on one chair at table of bread; nearly obliterated.
- (17) Sethuw, G 4710: on both door-jambs, S. seated at table of bread with ideographic list under the table, but no short list above; in vertical columns above, offering formula with titles and name; on north facing S. two registers of priests: (a) *wt* kneeling with closed fist performs *šnm šht*, (b) *hnt wr* kneeling holds out cake in right hand, and *nw* pot in left, (c) *hry wdb* in usual attitude; on south facing S. a standing figure (*hm-k?*) holds ball of natron over basin.
- (18) Kanofer, G 2150: north door-jamb, K. seated at table of bread; above, short picture list, and below, ideographic list; on right facing in *Hm-k?* Nekht-ka holding out ewer and basin; on south K. is seated with staff in right hand (see below).
- (19) Seshat-hetep, G 5150: north door-jamb, S. seated at table with daughter standing behind chair; above, offering formula, titles, and name; ideographic list under table; on right *wt* performs *šmnt šh* and *hry wdb* in usual attitude; south jamb seated with staff (see below, No. 27).
- (20) Nesuwt-nofer, G 4970: the north jamb is unfinished and the south uninscribed; on the north jamb, N. is seated in the attitude of the man at table, but the rest of the scene has not been cut.
- (21) Kaninesuwt, G 2155: north and south door-jambs, K. seated at table of bread with short list above, and ideographic list below table; in front, (a) the *wdpw hnt wr pr* kneels holding out jars, (b) *wt* kneeling performs the *šmnt šh*, (c) a *hm-k?* (?) with ewer and basin, and (d) a *hry wdb*; on the south register below, the scene shows men with haunch of beef, man with platter of beef, and two men bringing an oryx.
- (22) Thenty, G 4920: on north and south door-jambs, T. seated at table of bread with ideographic list under table, but no short list above; at top in vertical lines, an offering formula with titles and names.

Door-jambs with chief figure seated with staff:

- (23) Khufuw-khaf, G 7140: on north and south door-jambs, K. seated with staff in far hand and near hand half extended, facing out; above, titles and name; on north, 'viewing the *prt hrw* brought from the king's estate and from his estates of the funerary endowment' followed by ideographic list of animals and birds, and 'single daily portion for the *sh*'; behind his chair a daughter; in front of him his two sons standing reading papyrus rolls; on the south jamb K. is 'viewing the *htmt* brought from the king's estate', and an ideographic list of linen and ointment-jars; on the left, the same two sons squatting with one knee up, and the first holds a papyrus roll against his breast.
- (24) Prince Duwanera, G 5110: both door-jambs, D. seated with staff in far hand, and *sekhem*-wand in near hand; behind him four attendants in two registers carry personal effects; above him, remains of an offering formula with titles and name; on the north, in front of him a standing scribe facing in, and behind the scribe a slaughter scene; on the south the left-hand side destroyed.
- (25) Min-dedef, G 7760: on north door-jamb, M. and wife seated on one chair facing out; M. with staff in left hand; rest obliterated; south jamb destroyed.
- (26) Kanofer, G 2150: south door-jamb, K. seated with staff, facing out; in front of him three registers, facing in: reg. 1 (a) scribe standing, reading papyrus, (b) scribe squatting, writing a papyrus; reg. 2, two men bringing in an oryx; reg. 3, two men bringing in a calf; on north door-jamb, table scene (see above, No. 18).

- (27) Seshat-hetep, G 5150: south door-jamb, S. and wife seated on one chair facing out; S. with staff in right hand; naked boy between S. and staff; in front a vertical line down edge of jamb gives the end of an offering formula.
- (28) Ankh-ma-ra, G 7837: on both door-jambs A. seated with staff, facing out; above, vertical lines of a biographical inscription, which is continued on the inner rebate of each jamb; on the south jamb in front of A. is a vertical row of four estates, facing in; on the north jamb under the chief figure a register of six men squatting: two facing out, and four facing in, probably son and household officials; this group is continued on inner north jamb by two registers of men; on the south inner jamb this space is taken by the statuette of a scribe in niche.

It is to be noted that the scenes on opposite jambs, even when symmetrically reversed, are seldom if ever exactly the same in all the details. In four cases the chief figures on opposite jambs are represented in different attitudes, as follows:

- (a) Nofer, G 2110: on north jamb standing with staff and wand, see No. 5 above; and on south jamb seated at table of bread, see No. 15.
- (b) Kanofer, G 2150: on north jamb seated at table of bread, see No. 18; and on south seated with staff, see No. 26.
- (c) Mer-ib, G 2100 ann.: on north standing with staff and wand, see No. 8; and on south leaning on staff, see No. 9.
- (d) Seshat-hetep, G 5150: on north seated at table of bread, see No. 19; and on south seated with staff, with wife on same chair, see No. 27.

The attitudes of the chief figure are those of the table, the offering, and the presentation scenes, of the inner wall of the offering-chapel. The table scenes on the door-jambs are essentially the same as the table scenes on the end walls of the rooms, but necessarily abbreviated for lack of space. The jamb scenes showing the figures seated with staff and those with standing figures are not, on the whole, to be identified definitely with either the offering scene or with the presentation scene. In the tomb of Khufuw-khaf on one side, the prince seated with staff is 'viewing the *pri hrw* brought from the king's estate, and his estates of the funerary endowment', and on the other 'viewing the *htmt* brought from the king's estate'. Similar inscriptions appear on the jambs of Mer-ib, where a standing figure is 'viewing the *pri hrw* brought from the king's estate', and on the south a figure leaning on a staff is 'viewing the *htmt* brought from the king's estate'. It may be assumed that the general conception of the figures on the door-jambs was rather vague, but that each indicated an abbreviation of one of the three types of wall scenes.

Taking the Giza tombs alone, the door-jambs Nos. 5-28 present the following features:

	Tombs	Door-jambs
(1) Attitudes of chief figures:		
(a) standing figure, Nos. 5-13	9	15
(b) seated at table of bread, Nos. 14-22	9	13
(c) seated with staff, Nos. 23-8	6	9
	24	37
(2) Family groups:		
(a) man and wife, Nos. 6, 16, 25	3	5
(b) man, wife, and small son, No. 27	1	1
(c) man and son, with small son, No. 7	1	2

	Tombs	Door-jambs
(d) man with small girl or boy between him and staff, Nos. 8, 10, 12, 13	4	7
(e) man with girl behind chair, No. 19	1	1
(f) man with girl behind chair, and children in front, facing, No. 23	1	2
(g) man with three children in front of staff, No. 1	1	1
	<hr/> 12	<hr/> 19
Man alone	12	18
	<hr/> 24	<hr/> 37
(3) Other elements:		
(a) with offering formula, Nos. 17, 19, 22, 24, 27	4	8
(b) with priests:		
No. 15 (south, <i>wt</i> , <i>hry wdb</i> , four <i>hmw-k3</i>)		
,, 17 (north, <i>wdpw hnt wr</i> , <i>wt</i> , <i>hry wdb</i>)		
,, 17 (south, <i>hm-k3</i>)		
,, 18 (north, <i>hm-k3</i>)		
,, 19 (north, <i>wt</i> and <i>hry wdb</i>)		
,, 21 (north and south, <i>wdpw hnt wr</i> , <i>wt</i> , <i>hm-k3</i> , and <i>hry wdb</i>)	5	7
All seven are table scenes.		
(c) with scribes:		
No. 5 (four scribes)		
,, 8 (scribe reading list of offerings and man bearing ointment-jars)		
,, 11 (scribe reading accounts)		
,, 13 (north, scribe reading list of <i>ndt hr</i> , and <i>hm k3</i>)		
,, 24 (scribe and slaughter scene)		
,, 23 (north and south, two sons as scribes)		
,, 26 (south, two scribes)	7	11
Six scenes with standing figures, five scenes with a seated figure with staff.		
(d) with personal attendants behind figure:		
No. 10 (north and south)		
,, 11 (north and south)		
,, 24 (north and south)	3	6
Four with standing figure, and two with figure seated with staff.		
(e) viewing offerings brought from king's estate:		
<i>Prt hrw</i> , No. 8, 23		
<i>Htmt</i> , No. 9, 23	2	4
Two scenes with seated figure, and two with standing figure.		
(f) men bringing animals:		
No. 11 (north, hyena and oryx)		
,, 21 (south, oryx)		
,, 26 (south, oryx and calf)	3	3
One with standing figure, one with table scene, and one with figure seated with staff.		

		Tombs	Door-jamb
(g) with slaughter scene:			
No. 24		1	2
(h) with biographical inscription:			
No. 28		1	2

With figure seated with staff (see No. 1).

The varied character of the jamb scenes is fully illustrated by the above table.

In the late L-shaped chapels examples occur in which the door-jamb does not bear any chief figure, but is utilized for small wall scenes, in particular the boating scene, which is so frequent a decoration of the space on the east wall of the offering-room, over the doorway. Of the group of tombs dealt with in this chapter, two appear to have had no chief figure:

(29) Seshem-nofer: G 4940: north door-jamb, unfinished above, shows two registers below: (1) two men bringing in antelope, (2) two men cutting up a bull; south door-jamb, undecorated.

(30) Seshem-nofer: G 5080: north door-jamb, herdsman leading in three calves, probably continuation of scene on north wall; south jamb, two registers: (1) the lower part of a boat being rowed in by eight oarsmen, broken away above; (2) two men bringing in an oryx.

There does not seem to be room above in any one of these three jambs for a seated figure, much less a standing figure.

e. The Scenes on the Chapel Walls

The walls of the offering-room are decorated with scenes calculated to fill the space available. The *ka*-door or *ka*-doors in the west wall, being the most important part of the chapel, were decorated first, and the decoration of the niche extended in some cases to the adjacent parts of the wall. The decoration subsidiary to the niche is counted as part of the niche decoration. The rest of the west wall and the other walls, north, south, and east, were decorated with scenes which are classified as table scenes, offering scenes, presentation scenes, family groups, and various small scenes usually attached to one of the chief scenes. There are two larger spaces (west and east walls), and two smaller spaces (north and south walls). In the chapels of type (3 a), with the single niche at one end of the west wall, the west wall presents one large space with a narrow space on the other side of the niche. In the chapels of type (4) the large wall space is between the two niches with two narrow spaces, one south of the south niche and the other north of the north niche. In the case of the chapels of type (3 b), with the niche in the middle of the west wall, there are two larger spaces, one on each side of the middle niche, but when the niche itself is in a section of palace-façade panelling, the space available for wall scenes is small.

The east wall presents usually one large space in all chapels of types (3) and (4), in which the entrance is at one end (usually the north end) of the east wall. In several cases, however, (chapels types (4) and (6)) the entrance is near the middle of the east wall, and in these cases there is an extra space north of the entrance, while the other end of the wall still bears the chief scene on that wall.

The north and south walls present little variation in size. It is to be noted, however, that in two chapels the scene on the south wall is continued on the adjacent east wall and in several cases the scenes on both the south and the north walls have a few figures extended into the adjacent parts of the west wall.

(1) *The Large Wall Scenes*

The Giza scenes have been classified and the classes of scenes defined as follows:

(a) The Table Scene: man or woman, or man and wife, seated at a table of bread or a table piled with mixed food-offerings as on primitive niche-stones, slab-stelae, and the tablet scene of the

traditional *ka*-door; in the early chapels, found on the back of the inner niche of the *ka*-door; at Giza occurs on the architraves and door-jambs as well as on wall spaces.

- (b) The Offering Scene: man or woman, or man and wife, standing or seated, with a large 'picture list' of offerings in front of the chief figure or figures; viewing the written lists of offerings; includes the *sh* scene (pavilion or kiosk), and a few scenes in which the chief figure is viewing men bringing in the funerary meal.
- (c) The Presentation Scene: owner of the tomb, alone or with his wife and family, standing or seated, viewing the bringing of the *ndt-hr* or the *prt hrw* by the estates of the funerary endowment or the bringing of *prt hrw* or *htmt* from the king's estate.
- (d) The Family Group: two or more members of the family pictured independently, not as part of one of the chief scenes mentioned above.
- (e) Scenes from Life; the scenes showing outdoor activities:
 - (a) scenes containing a large figure or figures acting in hunting, fishing, or similar scene drawn disproportionately large.
 - (b) scenes in which the owner is of a size proportionate to the rest of the scene; carrying-chair scene, boating scene.
 - (c) scenes in which the chief figure (or figures) is viewing registers of small figures engaged in hunting, fishing, cultivation of the fields, harvesting, tending cattle, and other farm-work; also scenes of craftsmen at work.

Although the decorated chapels of the true cruciform type at Medum and Saqqarah contain scenes from life, the L-shaped chapels at Giza are usually bare of these scenes.¹ They show only the table scene, the offering scenes, the presentation scene, and the family groups, sometimes with smaller subsidiary scenes such as men bringing the funerary meal, and the slaughter scenes. These scenes seem to be the most necessary for the supply of food and drink, and dominate all the interior L-shaped chapels at Giza. In a few of the largest chapels with exterior stone rooms the walls of the exterior rooms appear to have borne scenes from life.

The following table shows the distribution of the various types of scenes on the four walls (west, east, north, and south) of the interior offering-room (types (3) and (4), and one example of type (6 c)):

A. West wall of chapel:

1. The L-shaped chapels:	(a) Table scene: G 5080, 2150, 2155, 4651 (2 small)	5
	(b) Offering scene: none.	
	(c) Presentation scene: LG 20, G 7140, 7510, 7550, 7660, 7760, 4710, 5110, G I S No. 3, Mer-ib, 5150 (Seshat-hetep), 4920, 5030	13
	(e) Man bringing funerary meal: G 2150, LG 32 (Rawer)	2
	(f) Family group: G 4940	1 21

¹ However, note should be taken of the chapel of G 4000 (corridor) and that of G 5110 (cruciform), where fragments show that there must have been craftwork scenes, probably boat-building. In the L-shaped chapel of Merytyetes (G 7650), on the east wall, is a fragmentary scene of men seining for fish. By inference from the men below carrying birds as well as fish, there was probably also a bird-trapping scene. The stakes for the bird-trap as well as captured birds and animals carried by the men on the north wall of G 7560 suggest the usual swamp scene. Above is a strip of water, and a fragment with men

steering a boat probably belongs to this wall. On the west wall, in addition to the more usual presentation of animals and personal equipment, the second register has a herd of goats and a man bringing a peasant for judgement. A herd of sheep and goats appears again on the almost entirely destroyed east wall of G 7810. The boating scenes from the queen's chapel G I-b and several of the L-shaped chapels, which form a separate category from the boats employed in the swamp scene, are discussed in section (b) on p. 325.

B. East wall of chapel:

1. The L-shaped chapels: (c) Presentation scene: G 7140 (*htmt*), LG 20, G 4920, 5110 (N), 7060, 7152, 5150, 5080, LG 32 (Rawer), G 2155, LG 20 (upper scene) II
 Presentation scene with chief figures at each end (double scene): G 2100-I ann. I
 (e) Family group: G 4970, 5150 (N) 2 14

C. North wall of chapel:

1. The L-shaped chapels: (a) Table scene: G 4920 I
 (b) Offering scene: G 2100-I ann., 5150, 4970 3
 (c) Presentation scene: G 7650 I
 (e) Men bringing funerary meal: G I S, No. 8 I
 (f) Family group: G 7140, 7820, 4940, 2150 4 10

D. South wall of chapel:

1. The L-shaped chapel: (a) Table scene: G 7140, 7550, 7820, G I S No. 3, 5150, 4970, 2150, 2155, 4651, G I S No. 8, 5240 II
 (b) Offering scene: G 7650, 7060, 5110, LG 32 4
sh scene: G 5080 I
 (e) Men bringing funerary meal: G 2100-I ann. I 17
 62

Of these 62 scenes, 21 on west wall, 14 on east wall, 10 on north wall, 17 on south wall.

	W. wall	E. wall	N. wall	S. wall	Total
Table scene	5	..	I	II	17 scenes
Offering scene . . . . .	..	..	3	4	7 scenes
<i>sh</i> scene . . . . .	..	..	..	I	I scene
Presentation scene	13	12	I	..	26 scenes
Men bringing funerary meal	2	..	I	I	4 scenes
Family group	<u>I</u>	<u>2</u>	<u>4</u>	<u>..</u>	<u>7 scenes</u>
	21	14	10	17	62 scenes

Counting only the scenes on the chief spaces, the west wall presents three table scenes (Merytyetes, Seshem-nofer (G 5080), and Rawer), no offering scenes, thirteen presentation scenes, two with men bringing funerary meal, and one family group. In two tombs (Mer-ib and Seshem-nofer (G 4940)) there are small table scenes above the northern niche, and in Mer-ib there is a secondary scene south of the south niche; but these I do not count for the present purpose. It is obvious that the chief space of the western wall was generally used for a presentation scene, 'viewing the *pwt hrw*' or 'the *ndt hr* brought from the estates of funerary endowment'.

The eastern wall of the L-shaped chapels usually presented one chief space, south of the entrance, and in one case (Nofer) north of the entrance. In two cases, Duwanera and Seshat-hetep, where the entrance is in the middle of the east wall, opposite the space between the two niches, the east wall presents two chief spaces, north and south of the entrance. The east wall space pictures no table scene, no offering scene, twelve presentation scenes (one double presentation scene), and two family groups (one of which is north of the doorway, in Seshat-hetep). On this wall again the scene is usually a presentation scene. It is to be noted that in two cases the chief figure is on the south wall with the scene continued on the east wall: Kanofer (table scene No. 9) and Seshem-nofer (G 4940) (presentation scene No. 2).

The north wall offers a space of moderate width, smaller than the chief space on the west and the east walls, and this space is in a few cases further curtailed by a blank space left to be covered by the wooden door when open. On the north wall there are pictured one table scene (Thenty), four offering scenes, one abbreviated scene, one funerary meal, and four family groups.

The south wall presents, again, a narrow space similar to the corresponding north wall, but undiminished by the opening of the door. The scene represented on this wall is increased in a few cases by the inclusion of the narrow space at the south end of the west wall; and in two cases by the extension of the scene over the whole east wall. Including the scenes extended to adjacent walls, the representations pictured on the south wall include eight table scenes, three offering scenes, one pavilion scene, and one scene of men bringing the funerary meal.

The scenes on the north and south wall are obviously selected from types adapted to the small space, or more rarely they are of larger types, abbreviated to fit the space. On the north wall the most frequent scenes are either offering scenes with picture list and scribes, or family groups. On the south wall the scenes are all connected with the supply of food and drink for the funerary meal.

(2) *The Minor Scenes of the Chapel Walls*

The large wall scenes discussed above consist of registers of small figures 'viewed' by the chief figure or figures of large size standing or seated on one end of the wall. In the presentation scene of ordinary type the registers present generally estates bearing offerings, scribes writing the documents of lists of the contractual offerings, processions of men bringing funerary equipment, the utensils and materials of the funerary meal, and live birds and animals both wild and domesticated. The offering scene, which is usually smaller than the presentation scene, contains a picture list of offerings and scribes preparing or reading the lists of offerings. Other offering scenes show the owner viewing the bringing of the funerary meal by the *hmw-kj*. The table scene varies considerably, but has as an essential feature in the early chapels the various kinds of offering lists, the ideographic list, the short list with funerary priests performing the initial rites ('glorification', 'opening of the mouth'), and the presentation of the first funerary meal. Later the table scene was increased by the use of the other types of offering lists, in particular the compartment list. Very often in all periods the processions of men bringing the utensils and materials of the funerary meal were attached to the table scene.

Apart from the registers which form part of the large wall scenes or are attached to them, there are a number of small nearly independent scenes. These independent minor scenes consist of (a) the small table scene over the niches of the west wall, (b) the boating scene which stands usually on the east wall over the entrance doorway, (c) one scene labelled the 'viewing the document (?) of the house of the weaving women' on the south end of the west wall, (d) the bringing of the funerary meal as a chief scene of small size. I propose here to give an exposition of these minor wall scenes and two of the component elements (the bringing of the funerary meal and the slaughter scene) of the large wall scenes.

(a) *The small table scene over the offering-niches.*

The table scene was one of the chief scenes used in the chapel decoration. Aside from the tablet scene, the most significant part of the traditional *ka*-door, the table scene appears in the L-shaped chapels on the door-jambs and in special wall scenes. In the tomb of 'Prince' Mer-ib, G 2100-I ann., a small table scene was pictured over the north offering-niche and was probably intended as subsidiary to that niche. The scene is peculiar because Mer-ib is seated with staff in hand at the table of offerings, with four priests performing the initial ceremonies.

In the tomb of the *hm-kj* Kay, G 4651, on the west wall over each of the niches is a small table scene

facing to right on the south and to left on the north. On the south is the usual scene with ideographic and short list, and on right of the table stand two sons facing left, bearing bird and haunch of beef. The similar scene on the north is nearly obliterated. A fourth small table scene was found in the chapel of Kapi, G 2091, of type (10), on the top of the east wall at the south end, facing to right, badly preserved.

(b) *The boating scene usually over the doorway.*

The boating scene shows one or more boats, river boats or papyrus boats, on which the owner is represented on nearly the proper scale. The scene is found in L-shaped chapels once, on the north wall at the top. In the L-shaped chapels of type (4) a scene with a number of boats is shown on the east wall over the entrance and in one or two cases on a door-jamb.¹ The boating scene occurs in the early rock-cut tombs. Those in the chapels of type (4) are partly contemporaneous with the early rock-cut chapels and partly later, extending into Dyn. V. The list is as follows:

- (1) G 7660: 'Prince' Ka-m-sekhem: north wall; across the top of the whole wall is a single large boat being paddled to right with figure of the owner standing and other members of the crew, upper part obliterated; below this are three narrow registers leaving space on the right for the wooden door to stand open against the north wall; reg. 2, four women proceeding to right bearing long box and long narrow case, bag and fan, strip of linen and jar on shoulder, bucket and undetermined object; regs. 3 and 4 show two slaughter scenes (two men cutting up a bull).
- (2) G 5080: Seshem-nofer: south door-jamb; destroyed above, apparently without chief figure; lowest register shows two men bringing an oryx in to right; above this remains of a register showing a large boat being paddled (eight paddles) to right.
- (3) G 4940: Seshem-nofer: east wall; on the right end of the wall is an old compartment list in two parts; to the left of the compartment list are two registers: reg. 1, boat scene continued over the entrance doorway but unfinished in part; four boats, proceeding to right: from right to left, (a) sailing-ship, flat wooden type with recurved animal-head prow; (b) similar ship not completely cut; (c-d) two papyrus rafts one above the other, painted only, paddlers on lower raft; over the prow of (a), *mr imnt*, over the figure standing leaning on a staff, *tpy hr nswt Ššm-nfr*, over the steersman *hrp* . . . ; in ship (b), the chief figure is seated with the label *tpy hr nswt Ššm-nfr*; over the prow is written *m t: hsw hr-f, šhd* . . . *ib*. Between the two ships above are two men on land, running to right.
- (4) G 2100-I ann.: 'Prince' Mer-ib: east wall over entrance; two ships, one above the other, each a flat-bottomed wooden boat with two-legged mast; the upper boat has the recurved animal-head prow; long cabin covered with canvas; each with a crew of fifteen, including the chief figure (Mer-ib); the upper boat is under sail and the lower is being paddled by nine men; over the upper boat 'sailing to the fields of offerings'; Mer-ib leans on staff in both ships.
- (5) G 5150: 'Prince' Seshat-hetep: east wall over the entrance; partially preserved; reconstructed as Mer-ib; lower ship of flat-bottomed type with cabin and two-legged mast, with recurved animal-head prow; with eight rowers; probably upper ship being sailed as Mer-ib.
- (6) G 4970: Nesuwt-nofer: east wall, over entrance; two registers of two boats each; reg. 1, on right, (a) small papyrus raft, with three paddlers and a steersman, (b) large wooden boat, flat-

¹ The fragments from the queen's chapel G I-b also show a boat being paddled by a number of men. Two other fragments with water, one with parts of oars and the other with paddles, came from the chapel of either G I-a or G I-b. A third fragment having part of a boat with the inscription *pr nsw*

over it, although its meaning is doubtful, seems to belong to a type of scene found only in royal reliefs. A fragment from the exterior chapel of Meresankh III (G 7410+7420) shows the queen seated on a throne in a boat as on the east wall of G 7530 (Meresankh III).

bottomed type, rowed by six men; pilot, two steersmen, and man on top of long cabin, owner standing leaning on staff; scene labelled *hnt nfrt imnt*; reg. 2, (a) small wooden boat with animal-head prow and three men paddling, (b) as large boat above, paddled by six men; horizontal line over reg. 2, *mr imnt tp nfr pw*, with added-in painted signs ... *ir šht htp*; the chief figure, Nesuwt-nofer, in each boat leaning on a staff as Mer-ib and Seshat-hetep.

- (7) G 2155: 'Prince' Kaninesuwt: east wall over entrance, two registers; two ships proceeding to right, as Mer-ib; reg. 1, ship of flat-bottomed type as in Mer-ib under full sail, *iwt m Dp škdwt r šht htp nfr wrt* with full crew; men, with ropes, &c., running on bank; reg. 2, similar ship, paddled *škdwt r Twnw*: seven paddlers and usual crew; chief figure, *šm K3-n-nswt*, leaning on staff as in Mer-ib.

The boating scenes in the early rock-cut tombs will be described below. It is to be noted that in the late chapel of type (5) of Nofer (Junker), a scene resembling the boating scenes of the L-shaped chapels is included in a presentation scene with agricultural scenes added on the left (a composite scene).

(c) 'Viewing the document (?) of the house of the weaving women'.

An isolated scene occurs in the tomb of Mer-ib (G 2100-I ann.) as follows:

- (1) G 2100-I ann.: west wall, south of south niche, in upper half of the space; on left facing right, Mer-ib seated, facing to right, with both hands half extended; in front of him vertical inscription, *ms c(?) pr* ... (weaving woman); to right three registers with one man in each facing Mer-ib; (1) man squatting with one knee up, with right hand on breast and left half extended; (2) man in same attitude, but holding papyrus roll in extended right hand; (3) man standing holding out strip of cloth; under the whole scene are two registers, regs. 2 and 3; reg. 2, three offering-bearers facing in to right (haunch and live bird, table with cakes and goose on a skewer, loaf of black bread in a bread-pan in each hand); reg. 3, two men cutting up a bull.

The scene obviously represents the presentation of the work of the weavers to Mer-ib accompanied by lists of accounts. This scene is to be correlated with the presentation scenes, and in particular with that showing the viewing of 'sealed equipment'. The two registers below have no direct relation to the small chief scene, but are subsidiary to the offering-niche itself.

(d) *The bringing of the funerary meal by the servants of the ka.*

The bringing of the funerary meal is one of the scenes most frequently pictured in the decoration of the chapel. It occurs on the façade panel in the doorway embrasure, on the door-jambs, on the *ka*-doors, and in the wall scenes. In the wall scenes it is usually part of a table scene, presentation scene, or an offering scene, or attached to such scenes. The men bringing the utensils and materials of the funerary meal are usually labelled *hm k3* when the figures are labelled at all. The men in these scenes bear a variety of utensils and food-offerings: (1) double bell censer, (2) ewer and basin in various attitudes, (3) *kebeh*-jar or similar, (4) one or two towels, (5) cylindrical ointment jar, (6) circular table either with or without food offerings, (7) haunch of beef, (8) pieces of meat usually on a platter or platters, (9) heart or basin of blood or heart-shaped jar, (10) trussed bird on skewer or platter, (11) bread or cakes in hands, on platter, in basket, &c., also circular table with bread or cakes, (12) vegetables or flowers, (13) one or two jars of wine, beer, milk, or water, (14) *mw*-pot, basin or bowl, or other vessels, (15) live bird or birds, and (16) young animal in arms. The procession of men varies greatly in the number of men, but their inscribed labels prove that they are all 'servants of the *ka*' (*hmw-k3*). When the number of *hmw-k3* is

small the objects carried are most frequently the ewer and basin, the bell censer, the circular table, the linen towel, and the jar of ointment. The other objects borne consist of food offerings including live birds and animals. It is to be noted that the processions of men bringing funerary furniture, and the long processions leading in wild animals, cattle, and birds are not to be confused with the men bringing the utensils and materials of the funerary meal, although the individuals in these processions are also labelled *hmw-kꜣ*.

The scene of men bringing the funerary meal occurs in the chapels of Rahotep (Medum 6) and Methen. At Giza it occurs as follows:

- (a) On the façade in the doorway embrasure: in Kanofer, G 2150; later than Mycerinus.
- (b) On the door-jamb: (1) FS 3078, cruciform chapel (Saqqarah); (2) Kaninesuwt, G 2155, a tomb in the Cheops-Chephren Quarry excavated by Professor Selim Hassan; (3) Sekhemka, G 4411; (4) Kaninesuwt II, G 2156.
- (c) *Ka*-door, inner recess sides: (1) Iy-nefer of Dahshur; (2) Prince Hordedef, G 7220; (3) Sekhemka; (4) G I S No. 8 (Junker).
- (d) *Ka*-door, back of outer recess: (1) Seshem-nofer, G 4940; (2) Kaninesuwt, G 2155, both *ka*-doors; (3) Thenty, G 4820, south niche; (4) Nofer, G 4861.
- (e) *Ka*-door, sides of outer recess: (1) Khufuw-khaf I, G 7140; (2) Seshem-nofer, G 4940.
- (f) Subsidiary to *ka*-door: (1) Merytyetes, G 7650, north of north niche; (2) Seshem-nofer, G 4940, south of south niche; (3) 'Prince' Mer-ib, G 2100-I ann., south of south niche and north of north niche; (4) 'Prince' Seshat-hetep, G 5150, south and north of south niche; (5) Nesuwt-nofer, G 4970, south of south niche; (6) Thenty, G 4920, south of south niche, lower two registers; (7) Ka-seza, G 5240, north of south niche and north of north niche.
- (g) Wall scene, table scene: (1) 'Prince' Zaty, G 7810, on west wall south of niche, subsidiary to south wall; (2) Thenty, north wall under table scene; Kaninesuwt, G 2155, east wall, lowest register, subsidiary to table scene on south wall; (3) Rawer, LG 32, west wall south of niche; (4) Ka-m-ankh, G 4561, alcove, south wall; also in Nekauwra, Meresankh III, Khafra-ankh (G 7948).
- (h) Wall scene, offering scene: (1) Mer-ib, G 2100-I ann., south wall; also in Meresankh III and Debehen; also under offering scene; (2) Mer-ib, G 2100-I ann., north wall; (3) Seshat-hetep, G 5150, north wall; Nesuwt-nofer, G 4970, north wall.
- (i) Wall scene, presentation scene: (1) Sethuw, G 4710, west wall, reg. 2; (2) 'Prince' Mer-ib, G 2100-I ann., west wall, reg. 3.

The representation of men bringing in the funerary meal occurs in a number of other cases, several times as an independent scene with chief figure, and several times under destroyed scenes. It is a frequent element of the table scene and the offering scene, and is one of the scenes peculiarly suited to the decoration of the *ka*-door.

A few scenes of men bringing the funerary meal occur as independent offering scenes on small wall spaces, as follows:

- (1) G 2150: Kanofer: west wall between two niches; owner standing with staff and wand facing in to left; small son between him and staff; two registers of men bringing the funerary meal; all labelled *hm-kꜣ*: reg. 1, two men bearing (a) bell censer, (b) papyrus roll in his left hand and a scribe's pallet under right arm; reg. 2, two men bearing (a) towel in each hand, (b) *kꜣh* jar in left and live bird in right; all face to right; probably continued south of south niche, where there are two registers of two figures each facing right: reg. 1, two men with haunch of beef and birds; reg. 2, two women labelled *ḏrty* and bearing small boxes on their heads.

(e) *The slaughter scene.*

The 'slaughter scene' in the early chapels shows men with knives cutting up a bull, sharpening a knife, cutting out the heart, carrying blood in a vessel, cutting off a haunch, &c. Rarely, and generally later in date, men are shown tying a bull and throwing it for slaughter. The men engaged in this cutting-up scene are labelled *hm-k* or *ššmw* ('butcher').

In the tombs of Neferma'at of Medum and Atet there are several small scenes on the outer façade panels showing the slaughter of animals, but these appear to be subsidiary to hunting scenes. In Atet, one man shown cutting off the leg of a bull has the general appearance of the cutting-up scene. In the tomb of Rahotep (east wall, north of doorway, reg. 3) is an example of the traditional cutting-up scene, two men cutting off the legs of a bull lying on its back. On the left, three men face to left, (a) with strip of linen and *nw*-pot, (b) carrying a haunch, and (c) carrying a bowl of blood (?). The scene is associated with a scene of men bringing in the utensils and material of the funerary meal and was perhaps designed as part of that scene. In the tomb of Methen, again on the east wall, north of doorway, top register, three men cut up a bull under the supervision of a fourth, while a fifth runs away to the left bearing a basin containing a meat joint and a heart or heart-shaped jug of blood. This scene appears to be subsidiary to an offering scene on the adjacent north wall. A fragment from the chapel of Ka-wab (G 7120) is clearly from a cutting-up scene, but its relation to other scenes is indeterminable. In the tomb of Nofer (G 2110), on the west wall, Nofer and his wife are seated on one chair facing to right, while facing them are two registers showing men bringing the funerary meal and mixed with this procession in the lowest register two slaughter scenes (one man cutting out the heart of a bull). The last man holds up the heart or a heart-shaped jar.

In the remaining examples the slaughter scene is in a sub-register:

- (1) G 7650: Merytyetes: on west wall between two niches, under the table scene with family group; two slaughter scenes, each showing two men cutting up a bull.
- (2) G 7660: 'Prince' Ka-m-sekhem: on the west wall, south of niche, under a nearly obliterated scene which appears to contain figures of funerary priests bringing in the funerary meal; reg. 4 contains two slaughter scenes with the fifth register obliterated.
- (3) G 7660: 'Prince' Ka-m-sekhem: north wall; regs. 1 and 2, boating scene; reg. 3, four women bearing personal effects (?); below these two sub-registers each containing a slaughter scene (two men cutting up a bull).
- (4) G 7550: 'Prince' Duwa-ne-hor: west wall, south of niche; under registers subsidiary to table scene on south wall, apparently a slaughter scene, nearly obliterated.
- (5) G 7760: 'Prince' Min-dedef: west wall, as last register of presentation scene, man bearing goose in each hand, man bearing haunch of meat, and two men cutting up a bull.
- (6) G 7810: 'Prince' Zaty: west wall, presentation scene, last register, under estates, two slaughter scenes.
- (7) G 5110: 'Prince' Duwanera: south wall in offering scene under picture list of offerings, two men cutting up a bull.
- (8) G 5110: 'Prince' Duwanera: north door-jamb, in lowest register in front of Duwanera seated, two men cutting up a bull.
- (9) G 5080: Seshem-nofer: west wall between two niches sub-register under table scene; a slaughter scene with two bulls (man sharpening a knife, two men cutting up a bull, man sharpening a knife, man holding coiled rope, two men cutting up a bull, man sharpening a knife).
- (10) G 4940: Seshem-nofer: north door-jamb; lowest register, wall above unfinished, but shows a man bringing in an animal; two men cutting up a bull.

- (11) G 2150: Kanofer: east wall, subsidiary to table scene (table of mixed food) and picture list on south wall; on east wall on right, late compartment list and on left and under compartment list, three registers of estates; sub-register under whole scene, two slaughter scenes.
- (12) G 2100-I ann.: 'Prince' Mer-ib: west wall south of south niche; subsidiary to south niche, one register of men bringing food, and last register shows two men cutting up a bull.
- (13) G 2100-I ann.: 'Prince' Mer-ib: north wall, under an offering scene with picture list and four scribes, is a sub-register showing four men bringing the funerary meal, proceeding in to left from a slaughter scene, two men cutting up a bull.
- (14) G 2100-I ann.: 'Prince' Mer-ib: east wall, presentation scene with two chief scenes (double scene); in reg. 5, in middle two men cutting up a bull, at each end two men (scribe and man with haunch of beef), facing to left on left and facing to right on right.
- (15) G 5150: 'Prince' Seshat-hetep: south wall, sub-register under table scene; on right facing to right two men bearing haunch of beef and heart-shaped jar, with two slaughter scenes (each of two men cutting up a bull).
- (16) G 5150: 'Prince' Seshat-hetep: east wall, presentation scene, reg. 4+, man with haunch and heart-shaped jar walking to right from two slaughter scenes (each of two men cutting up a bull).
- (17) G 2041: Sennuwka = Keku: west wall between two niches; to right subsidiary to table scene; reg. 1, man kneeling holding out bread and beer, with three men (one sharpening a knife) cutting up a bull; reg. 2, man holding out a haunch of beef, and two men cutting up a bull. Over the scene is a late compartment list.
- (18) G 2155: Kaninesuwt: east wall; above two registers of fifteen estates each facing to left; reg. 3, men leading animals to left with two slaughter scenes at south end; reg. 4, men bearing in the funerary meal to right; the fourth register is subsidiary to the table scene on the south wall, and perhaps the slaughter scenes in the third register are also subsidiary to the table scene.
- (19) G 4920: Thenty: north wall, under table scene, two sub-registers: reg. 1, men bringing funerary meal, to left; reg. 2, five figures engaged in cutting up two bulls.
- (20) LG 20: Per-sen: west wall between two niches; a mixed or abbreviated presentation scene; six narrow registers of figures facing chief figures; regs. 1 and 2, women, probably daughters; reg. 3, two standing men, one with censer and the other with haunch of beef; reg. 4, two men cutting up a bull; reg. 5, men bringing a bull; reg. 6, two men bringing an oryx.
- (21) G 5470 = LG 32: Rawer: west wall north of niche; offering scene; large figure with two registers of funerary priests (eight men) bringing in the funerary meal; a sub-register contains three slaughter scenes (each of two men cutting up a bull).
- (22) G 5470 = LG 32: Rawer: south wall; offering scene with chief figure seated in kiosk facing out to left with picture list a register of offering-bearers; a sub-register on the left, two groups of men cutting up two bulls with a man with haunch of beef; on the right, a group of singers and musicians.

The slaughter scene occurs in the early rock-cut chapels as part of both the large composite presentation scenes and the equally expanded offering scenes. In the funeral scene of Debehen the slaughter is labelled as being carried out at the burial. In the late chapels of Dyns. V and VI the slaughter scene is of common occurrence and appears in all types of composite scenes, and in particular the offering scene.

(f) *Scenes of dancers, singers, and musicians.*

There are two subordinate scenes, one of dancing girls with others clapping and singing, and the

other of male musicians singing and playing the harp and the flute. Sometimes the two scenes are associated and sometimes combined. These scenes become a frequent element of the great offering scenes (including the great pavilion scene) of the early rock-cut chapels and continue to occur in the later chapels of Dyns. V and VI. No scene of dancers and musicians occurs in the cruciform chapels. A few cases can be found in the L-shaped chapels. One of them (G 7060) is perhaps of the reign of Mycerinus, and the others of Dyn. V. The examples are as follows:

- (1) G 7060: Prince Neferma'at: south wall; offering scene with picture list of offerings, partially destroyed; owner seated facing to left; under the chair lies a pet dog, named *rbw*; sub-register which crossed the whole wall, but has only the right end preserved, showing two women standing clapping hands.
- (2) G 5080: Seshem-nofer: south wall, small *sh* scene; owner in arm-chair; facing to right, four men bringing food offerings; son holds out a blue lotus with table behind him on which stand ewer and basin, and on right a man in respectful attitude; below this three sons squatting; sub-register showing from left to right, (a) three ladies clapping their hands and singing, (b) three ladies dancing, (c) harpist, (d) man singing.
- (3) G 5210: Khemten: east wall; in a presentation (*htmt*); only lowest register preserved; on the right two pairs of men each taking linen out of boxes and watched by an overseer (?); to the left of this, group of three squatting musicians (singer, harpist, flute-players); then men bringing animals to right.
- (4) G 5240 = LG 37: Ka-seza, son of Kanofer of G 2150: north wall; offering scene with picture list of offerings; Ka-seza seated in arm-chair facing to right; under the picture list, man holding up lotus flower to Ka-seza, man with uplifted clasped hands, then a harper, singer, flute-players; in a sub-register from left to right, (a) three women clapping hands and singing, (b) six dancing girls facing left.
- (5) G 5470 = LG 32: south wall; small *sh* scene; picture list; seven offering-bearers facing right; sub-register with slaughter scene on left and musicians on right (singer, flute-player, singer, harpist).

f. Decoration of the *Ka*-door

The parts of the traditional *ka*-door as explained elsewhere consist of:

- (a) The architrave, (b) the tablet, and its flanges, (c) the cross-bar, (d) the drum over the inner niche, (e) the back of the inner niche, (f) the side faces of the inner niche, (g) the two back panels of the outer niche, (h) the two side faces of the outer niche, and in some cases (i) the spaces of the west wall subsidiary to the offering-niche.

It is to be remembered that the one-niched chapel has the *ka*-door at one end of the west wall, and in three cases in the middle of the west wall (Neferma'at, Sneferuw-khaf, and Rawer). In the tombs of Neferma'at and Sneferuw-khaf the *ka*-door is the middle panel of an elaborate palace-façade, not of the traditional form referred to above. In the two-niched chapels both niches are of the traditional form, but are usually more shallow than the niches in the one-niched chapel, and in one or two late examples have only one architrave, extending over both niches. The development of the traditional *ka*-door into what I call 'the false *ka*-door stela' will be taken up in a later section.

(1) *The Architrave over the Offering-niche*

The architrave over the *ka*-door bears either titles and name, or an offering formula, usually with a figure of the deceased on the left-hand side. The list is as follows:

(a) Architraves with titles and name:

- (1) Rahotep, Medum 6: cruciform chapel; architrave over very deep offering-niche; titles and name in horizontal lines.
- (2) Nofret, Medum 6: as Rahotep, with his titles and name.
- (3) Methen: cruciform chapel; over deep offering-niche; titles and name in one horizontal line, probably continuing biographical inscription in vertical lines on wall above.
- (4) Neferma'at, G 7060: over *ka*-door of palace-façade form; in horizontal lines, genealogy, titles, and name; on left, man seated facing right, with staff in left hand and right half extended.
- (5) Sneferuw-khaf, G 7070: over *ka*-door of palace-façade form; three horizontal lines, genealogy, titles, and names; on the left seated figure facing right with staff in hand.
- (6) Per-sen, LG 20: over south niche; one horizontal line with titles and name; northern architrave uninscribed.
- (7) Thenty, G 4920: over north niche; horizontal lines with titles and name; niche-stone.
- (8) Khafra-ankh, G 7948, LG 75: niche-stone over subsidiary niche of southern pair; horizontal line with titles and name; offering formula on architrave of main niche.

(b) Architraves with offering formula:

- (9) G 7540: fragments found in debris; vertical lines; middle part of offering formula.
- (10) G 7350: four fitting fragments from debris; first half of offering formula, *Di Inpw htp*, written in vertical lines.
- (11) Min-dedef, G 7760: over single niche; horizontal lines with [*dī nswt*] *htp* [*Inpw*] *htp* formula; on the left, seated figure facing right with staff and handkerchief.
- (12) Seshem-nofer, G 4940: two architraves, one over the south niche and one over the north; horizontal lines; offering formula partially obliterated on each.
- (13) Kanofer, G 2150: over south niche; horizontal lines, [*dī nswt htp*], *dī Inpw htp*, &c.
- (14) Seshem-nofer, G 5080: over south niche; horizontal lines, *dī nswt htp*, *dī Inpw htp*, &c., including the *hp-f* phrase; over north *ka*-door a similar architrave omitting the *hp-f* phrase.
- (15) Mer-ib, G 2100-I ann.: two architraves, one over north and one over south niche; horizontal lines, *dī nswt htp*, *rdi Inpw htp*, &c., omitting *pri hrw*.
- (16) Seshat-hetep, G 5150: two architraves, one over each *ka*-door; horizontal inscription with titles and name continued from offering formula on wall above.
- (17) Nesuwt-nofer, G 4970: two architraves, one over each niche; inscription in vertical lines, *dī nswt htp*, *dī Inpw htp*, &c., but omitting the *pri hrw* phrase.
- (18) Kaninesuwt, G 2155: two architraves, one over each niche; over north niche horizontal lines, *dī nswt htp Inpw*, &c.; over south niche, *dī nswt htp rdi Inpw* and omits the *pri hrw* phrase.
- (19) Ka-seja, G 5340: over south niche; horizontal lines, *dī nswt Inpw htp*, &c.; northern architrave destroyed.
- (20) Zaty, LG 31: single architrave over both niches; horizontal line, *dī nswt Inpw htp*, &c., including the *hp-f* phrase; on the left a nearly obliterated figure, standing facing right with staff in left hand.
- (21) Meresankh III, G 7530: room a, over *ka*-door; horizontal lines, *dī nswt Inpw htp*, &c.
- (22) Meresankh III, G 7530: room b, over *ka*-door and statues; horizontal lines, *dī nswt Inpw htp*, &c.

- (23) Khafra-ankh, G 7948, LG 75: over three main niches of the three pairs in the west wall; horizontal inscription, *dī nswt Inpw htp*, &c.; on one-niche stone of minor niche of middle pair in name of wife, *dī nswt htp*, &c.

The form of inscription on the architrave which gives titles and name alone occurs on only eight examples, of which five are at Giza. The form with offering formula is represented by fifteen examples all at Giza. Two of these actually bear titles and name only, but are continued from an offering formula on the wall above. The difference in the two forms marks no chronological difference in their use.

The addition of a seated or standing figure on the left of the inscription is known in four cases:

- Seated figure with staff in left hand and right half-extended: Nos. 4 (Neferma'at of Giza) and 5 (Sneferuw-khaf).
- Seated figure with staff and handkerchief: No. 11 (Min-dedef, offering formula).
- Standing figure, with staff and uncertain object: No. 20 (Zaty, offering formula).

The occurrence of these figures is not frequent enough to justify any conclusion as to their significance. A third difference is the use of vertical or horizontal lines in the writing of the inscription. The vertical lines are used in only three tombs, Nos. 9 (G 7540), 10 (G 7350), and 17 (Nesuwat-nofer).

(2) *The Tablet of the Ka-door*

The tablet of the stone *ka*-door of traditional form bears the traditional table scene with various modifications, called the 'tablet scene'. At Giza this scene is presented first of all by the slab-stelae of the Cheops period. The feature which distinguishes the slab-stela and the contemporaneous tablets is the presence on the right-hand side of the old compartment list ('cupboard list') containing the linen list with or without granaries, utensils, and offerings. The group of early tablets (from Medum and Saqqarah) and the slab-stelae are obviously descended from the old primitive niche-stones of Dyn. III (see *Tomb Development*, pp. 294 ff.).

At Giza the development of the tablet is based on the form of the slab-stela, and the first phase of the development is the disappearance of the compartment list (linen list) from the right side of the tablet. Thereafter, the tablet scenes for a long time contained only the table scene, the ideographic list, and the short list of offerings. The later development mainly concerns the position of the owner seated at the table of bread, the inclusion of the wife with him on the same chair, the drawing of the loaves of bread, the representation of the lists of offerings, and their simplification.

(a) *Tablets with old compartment list at Giza.*

In succession to the slab-stela, the early stone mastabas at Giza present only twelve tablets owing to the destruction which has taken place. Seven of the tablets in the early mastabas are as follows:

- (1) G 4260 (Junker 2 N): no name, owner seated facing right in short wig, chin beard, and long robe; in usual attitude; under table, ointment, linen, bread, beer, two birds' heads; over table, short list; on right old compartment list, linen, stone vessels, furniture, and garments; five granaries.

Cf. Rahotep and slab-stela, class II.

- (2) G 2110: Nofer: tablet in Barrocco collection in Rome—see Pl. 31; seated in short wig and short skirt; right hand extended and left on knee; under table, ideographic list; above table, short list, old compartment list, linen list, and two registers of granaries.

Cf. slab-stela, class IV.

- (3) G 7510: north niche of Princess Hetep-heres: all but lowest part destroyed; remains on left

indicate the table scene; on the right, bottom of old compartment list shows two registers of three granaries each; between this and the table, remains of a second compartment list, stone vessels, and 1,000 signs.

Cf. slab-stela, class III.

- (4) G 7510: south niche: Prince Ankh-haf: only a fragment from left side preserved; probably like No. 3, above.
- (5) G 7650: north niche: Princess Merytyetes: seated at table in usual attitude, lappet wig and long robe; ideographic list under table; above and to right side of table, the short list; on right, old compartment list, linen list.
- (6) G 2100-I ann.: 'Prince' Mer-ib: *LD.* II, Pl. 19: north niche; seated in traditional attitude; ideographic list under table; above table, short list; on right old compartment list, linen list, and at bottom one register of funerary equipment.

Cf. slab-stela, class II, as modified by Rahotep. The south table omits the old compartment list.

- (7) Found in the debris of the shaft B of G 2352: Sethuw: figure and chair in relief together with name and part of one title; the rest incised; mastaba not identified; man in traditional attitude, short wig, long robe with shoulder ties; high loaves of bread; under table ideographic list; on the right, old compartment list, linen list, and below eight granaries.

Cf. slab-stela, class IV.

Each of these tablets which is sufficiently preserved has been correlated with one of the classes of slab-stela. Thus, these tablets stand not merely in chronological succession to the slab-stelae, but also in a direct type relationship.

In some of the cruciform chapels of Medum and Saqqarah the old compartment list is represented on parts of the offering-niche other than the tablet. On the sides of the inner niche of Kha-bauw-sokar the old compartment list is shown under the standing figure of the owner. On the sides of the deep outer recess, in the chapels of Rahotep and Nofret, this list is represented apparently subsidiary to the tablet scene. Finally, in the cased niche of Kanofer of Dahshur an old compartment list is represented on the side. It seems in accordance with this early use of the list that an old compartment list appears on the east wall of the chapel of Seshem-nofer (G 4940). In this chapel the scene on the east wall appears to be complementary to a large seated figure of the owner with staff which stands on the south wall. On the adjoining end of the east wall stands a large linen list with the signs facing to right and beside it on the left a large offering list (as the 'short list') with offerings in horizontal lines. The east wall north of these lists bears four registers of a presentation scene. There is no other evidence at Giza of the representation of the old compartment list on the walls outside the tablets,¹ and it may be assumed that Seshem-nofer had the list copied for his tomb on the basis of old slab-stelae still visible in the necropolis.

The dates of the tablets with the old compartment list, I estimate as follows:

- (a) Reign of Cheops: tablet No. 1 (G 4260).
- (b) Reign of Chephren: Nos. 2, 3, 4, 5: G 2110, G 7510, G 7650.
- (c) Reign of Mycerinus or Shepseskaf: No. 6, Mer-ib.
- (d) Uncertain: No. 7, Sethuw; probably a copy (end of Dyn. IV or Dyn. V) of slab-stela.

¹ The linen list appears again on the west wall of the burial-chamber of Ka-m-ankh (Junker, *Vorbericht*, 1926, Pl. VI). It is accompanied by a modified compartment list, a list of tools

and various kinds of ships, a drawing of carpenters at work, and large representations of granaries.

(b) Tablets with the short list in horizontal lines; without old compartment list.

Contemporaneous with mastabas which present tablet scenes with the old compartment list, a few mastabas have tablets in which the short list above the table is enlarged while the old compartment list is omitted. The short list is written in three or more horizontal lines which continue across the space formerly occupied by the compartment list. The examples are as follows:

- (1) G 4240: Prince Sneferuw-seneb: in traditional attitude; wig and long robe; under table on right only, ideographic list, linen, ointment, bread and wine; over table three horizontal lines of short list continued on right of table by six lines, all separated by horizontal lines in relief.
- (2) G 7140: Prince Khufuw-khaf I: traditional attitude, chin beard, full wig, and short skirt; under table on left, ideographic list, bread, beer, linen, and ointment; over table two horizontal lines of short list, continued down right side of table by three more horizontal lines, all separated by horizontal lines in relief; upper part of tablet and architrave missing.
- (3) G 4840: Princess Weneshet (Junker): seated at table of bread with right hand extended and left half extended; bread in tall old convention; under table, ideographic list on both sides, on right apparently continued by last line of short list; on right of table, three horizontal lines of short list.
- (4) G 5110: Prince Duwanera: traditional attitude, short wig, chin beard; under table ideographic list; over very long table, three horizontal lines of short list in frame and separated.

The first two tablets represent the slab-stela of class IV without the old compartment list, and both of these are not far in date from the end of the reign of Cheops. The other two are further modifications of the type in that the Weneshet tablet has the short list confined to the side of the table, while the Duwanera tablet (reign of Mycerinus) has the short list only above the table of bread, which is extraordinarily long.

(c) Tablets as above, with short list not separated by raised lines.

A number of tablets beginning in the reign of Chephren present a variation of the tablets just listed in that while the short list runs above and to the right of the table, the words are not separated by raised lines. The list of L-shaped chapels with tablets of this form is as follows:

- (1) G 7430: Prince Min-khaf: chapel type (3); nummulitic limestone, dated to the early part of reign of Chephren.
- (2) G 7550: 'Prince' Duwa-ne-hor: chapel type (3); nummulitic limestone; latter part of reign of Chephren.
- (3) G 7660: 'Prince' Ka-m-sekhem: as Duwa-ne-hor.
- (4) G 4710: Sethuw: chapel of type (3); mixed white and nummulitic limestone; family on flanges of tablet.
- (5) G 2100-I ann.: 'Prince' Mer-ib: south niche; chapel type (3); sized nummulitic limestone; grandson of Cheops.
- (6) G 2150: Kanofer: chapel of type (4); white limestone; later than Mycerinus.
- (7) G 2155: 'Prince' Kaninesuwt: chapel of type (4); white limestone.
- (8) G 5470: LG 32 (Junker): chapel type (4 b); nummulitic limestone; probably Dyn. V.

(d) Tablets with short list above table but not on right.

The next step was the omission of the continuation of the short list down the right side of the table. The result was to bring the right-hand side of the table against or close to the right-hand border of the

tablet. These tablets were, in general, much shorter in length. There are only a few examples in L-shaped chapels, and this type of tablet is more frequent in other later types of chapels:

- (1) G 5080: Seshem-nofer: chapel of type (4); white limestone; late Mycerinus or Shepseskaf.
- (2) LG 20: Per-sen: south niche; chapel type (4); white limestone.

The same type of tablet occurs in G 5210 (Khemten), 4650 (Princess Yabtyt), 4651 (Kay), 2362 (Ruwez), and 1018 (Theset).

(e) *The two-figure tablet.*

In a certain number of tablets a second figure is introduced, usually the wife, occasionally the mother, and in some late cases a second figure of the owner. In these tablets the presence of the second figure on the right prevents any extension of the short list on that side. The two-figure tablet begins with the primitive niche-stone, No. 14, and the tablet of the tomb of Nofret (wife of Rahotep of Medum). In these the man and wife are seated facing at separate tables. At Giza a similar scene occurs in the chapel of Zaty (No. 1 below), and in the later chapel of Kahify. The variation which shows man and wife seated on opposite sides of one table also occurs in the L-shaped chapels. A third variation shows man and wife seated side by side on one chair on left side of the table, but this variation does not occur before the middle of Dyn. V, and never in L-shaped chapels. The examples are as follows:

i. Man and wife at separate tables facing each other:

- (1) G 7810: Prince Zaty: chapel of type (3 a); nummulitic limestone; man in traditional attitude at table of bread; wife with both hands extended at table of food offerings; ideographic list and short list.

Another example occurs in the chapel of Kahify, in which the man and his mother are seated facing each other at a table of bread, but this is a late chapel.

ii. Man and wife seated opposite at the same table of bread:

- (1) G 5150: 'Prince' Seshat-hetep; chapel of type (4); nummulitic limestone; north and south tablets; man in traditional attitude, wife with both hands extended; ideographic list and short list.
- (2) G 4970: 'Prince' Nesuwt-nofer: chapel type (4); nummulitic limestone; north and south tablets; like Seshat-hetep.
- (3) G 2041: Sennuwka = Keki: chapel of type (4); white limestone; north and south tablets; like Seshat-hetep.
- (4) G 4920: Thenty: chapel of type (4); nummulitic limestone; south niche; like Seshat-hetep.
- (5) 4520: Khufuw-ankh: chapel of type (4) but with a great white limestone stela set in place of south niche; like Seshat-hetep, but short list is very full and on each flange are three men bringing offerings. This stela was presented to the owner by Weserkaf.

One other example occurs in a two-niched mastaba of Dyn. V, G 2184, Kanofer. Both figures are, however, in the traditional attitude and this tablet is not to be directly connected with the others listed here.

iii. Man and wife seated on one chair at a table of bread.

No example of the man and wife seated on one chair at a table of bread occurs in any of the tablets in the L-shaped chapels. Examples occur in chapels of later form, G 1151 (later than Neueserra), G 7521, and in a rock-cut tomb (Khafra-ankh).

iv. Two figures of the same man seated on opposite sides of the table.

Rarely the same man is shown twice in two figures seated opposite each other. The earliest example appears to be in the table of the north subsidiary niche of LG 20-21. In this Ka-iruw-Khufuw is seated on left in traditional attitude and on the right with both hands extended. Another case is in the tomb of Yeduw (G 7102), where Yeduw is shown in traditional attitude on the left, and on the right with left hand clenched on thigh and right extended. This tomb is dated to the reign of Pepy I of Dyn. VI.

To sum up, the different forms of the two-figure tablets appeared in the order of the list given above. But it is not possible to date a chapel by the form of the two-figure tablet.

(f) *The degeneration of the tablet scene.*

The first step in the further degeneration of the tablet scene was the omission of the short list of offerings which was originally placed above the table. The earliest example I have noted was in the rock-cut tomb of Queen Meresankh III, dated to the first year of Shepseskaf. The short list continued to appear in the tablets of the L-shaped chapels at least to the middle of Dyn. V, and the presence of the short list does not prove that a tablet is of Dyn. IV. The omission of the short list, however, is an indication, not a proof, that a tablet is of Dyn. V or VI.

The last element to be affected was the ideographic list under the table. In Dyns. V-VI the ideographic list is set in other parts of the field, replaced by other elements, or omitted, as follows:

- (a) Ideographic list under table.
- (b) Ideographic list above and below table.
- (c) Ideographic list above table (not below).
- (d) Ideographic list below and short picture list above table.
- (e) Ideographic list and ewer and basin under table.
- (f) Ewer and basin under table.
- (g) No ideographic list or short list.

I have arranged the above in the order of the degeneration of the offering lists attached to the table scene in approximate but not in strict chronological order. In Dyn. VI a few very narrow tablets occur from which the table itself is omitted.

- (h) Man seated without table.
- (i) Man standing without table.

Accompanying these changes in the offering lists, as shown by groups a-i, other variations occur, in the attitude of the figure, in the addition of a short picture list, the adding of one or more figures on the right of the table, and alterations in the table itself. These later accompaniments of the degeneration of the tablet scene will be taken up elsewhere in dealing with the decorated chapels of Dyns. V-VI.

(3) *The Cross-bar of the Ka-door*

The cross-bar of the *ka*-door bore titles and name as a usual rule from the earliest cased niches to the end of Dyn. V. The only alteration which took place in the inscription on the cross-bar was the introduction of an abbreviated offering formula. The cross-bar inscriptions found in the early tombs were those of (1) Kha-bauw-sokar, (2) Neferma'at of Medum (in the tomb of his wife), (3) Rahotep (one from his own tomb, and one from the tomb of Nofret), (4) Methen. All these bore titles and name only. At Giza the chapels of Dyn. IV with titles and name only on cross-bar were (5) Nofer, (6) Min-khaf, (7) Queen Merytyetes (on south titles of queen, and on north titles of princess), (8) Min-dedef (high cross-

bar with inscription in unseparated vertical lines), (9) Prince Zaty (G 7810), (10) Kanofer (south *ka*-door), (11) Seshem-nofer (G 5080) (on north and south *ka*-doors), (12) Mer-ib (on both *ka*-doors), (13) Seshat-hetep (on both *ka*-doors with his short name, Hety), (14) Nesuwt-nofer (on both *ka*-doors), (15) Kaninesuwt (on both *ka*-doors), (16) Thenty (south *ka*-door: north niche is of the dummy form without cross-bar or a tablet), (17) Rawer (on single *ka*-door), (18) Per-sen (LG 21: north subsidiary niche), (19) Zaty (LG 31: on south *ka*-door). The cross-bar inscription with titles and name occurs from the end of Dyn. III to the end of L-shaped chapels in Dyn. V. In the later chapels it also occurs down to the end of Dyn. VI.

The occurrence of an offering formula on the cross-bar is infrequent. The earliest example I have is on the cross-bar of Prince Hordedef, from the last years of Cheops. The formula in use is necessarily shortened to fit the space and varies from cross-bar to cross-bar. The examples are as follows:

- (1) Prince Hordedef, G 7220: single niche; *dī nswt htp Inpw htp krs im nb imh hr ntr* ♂, titles and name.
- (2) Khufuw-khaf, G 7140: 'May the king give an offering, Anubis foremost of the beautiful land *prt hrw m hb nb*, king's son Khufuw-khaf.'
- (3) Ka-m-sekhem, G 7660: single *ka*-door; inscription partly obliterated; . . . *hnty* . . . *hb nb s nswt*, Ka-m-sekhem; probably like the preceding.
- (4) Iy-nefer (?), G 7820: single niche; partly obliterated; . . . *hnty sh ntr prt hrw n fr nb r [tp?] ibd*, . . . *nt m wsg* . . . (probably titles and name).
- (5) Sethuw, G 4710: single niche; *dī nswt htp Inpw hnty sh ntr krs m smyt imntt nb imh, isw nfr wrt prt hrw r nb hb [nb]* . . ., *šmr, hrp ch* Sethuw, in undivided vertical lines.
- (6) Seshem-nofer, G 4940: south *ka*-door; *dī nswt Inpw htp hnty sh ntr* . . . *nb [imh] hr ntr ♂ tpy hr nswt Šsm-nfr*; written in undivided vertical lines.

Of the above six tombs, two are from the end of the reign of Cheops, three from the reign of Chephren, and one (No. 6) from the end of Dyn. IV. The formula on No. 1 is *dī nswt htp, Inpw htp*, and all the others appear to be the combined formula *dī nswt htp Inpw*. The full formula appears only on No. 5.

(4) *Drum over the Inner Niche*

The drum over the inner niche of the *ka*-door represents the first roofing log of the c.b. doorway. No evidence was found of the inscribed wooden drum of Hesy-ra and similar tombs. The stone drums, with limited space, bear usually short titles and name, or more rarely name only. In the majority of *ka*-doors of Dyns. V and VI, in which the drum was almost rudimentary, the drum was uninscribed. The list of inscribed drums follows:

- (1) Kha-bauw-sokar: large drum, with titles and name.
- (2) Neferma'at, Medum 16: short title and name.
- (3) Atet, Medum 16: name of Neferma'at; on drum under architrave of whole niche is written the name of Atet, also without titles.
- (4) Rahotep, Medum 6: name only.
- (5) Methen: short titles and name.

At Giza:

- (6) Hordedef, G 7220: large drum; titles and name.
- (7) Khufuw-khaf, G 7140: 'King's son K.'

- (8) Min-khaf, G 7430: *rpꜣt Min-khaf*.
- (9) Min-dedef, G 7760: *ss nswt n ht f Min-dedef*.
- (10) Prince Zaty, G 7810: *ss nswt Zaty*.
- (11) Sethuw, G 4710: in vertical lines, *šmr wꜣty, hrp ꜣh, hry šštꜣ n pr dwt, hry wdb ht ꜣnh S.*; large drum.
- (12) Kanofer, G 2150: south *ka*-door, *šmr Kanofer*.
- (13) Seshem-nofer, G 5080: both *ka*-doors, name only, of man.
- (14) Mer-ib, G 2100: on taller south *ka*-door, name only; on shorter and wider north *ka*-door, 'Sealer of the Divine bark Mer-ib'.
- (15) Seshat-hetep, G 5150: on south *ka*-door, '*šmr Seshat-hetep*'; on north *ka*-door, the same.
- (16) Nesuwt-nofer, G 4970: on north and south *ka*-doors, short titles and name.
- (17) Kaninesuwt, G 2155: on south door, '*šm hrp šndyt*, priest of Horus Kaninesuwt'; on north *ka*-door, name only.
- (18) Thenty, G 4920: south *ka*-door uninscribed; on drum of northern dummy niche, '*šmr, hrp ꜣh Thenty*'.
- (19) Rawer, LG 32, G 5470: on single *ka*-door, name only.
- (20) Ptah-sekem-ankh, G 7152: single *ka*-door, large drum; in two horizontal lines, '*hꜣty-ꜣ, . . . Ptah-sekem-ankh*'.
- (21) Zaty, LG 31: on south *ka*-door, name only; north *ka*-door uninscribed.
- (22) Khafra-ankh, LG 75 and G 7948: three pairs of false doors; the major niches of the middle and northern pairs have the drum destroyed; the major and minor niches of the southern pair have the drums inscribed 'Khafra-ankh'; in the minor niche of the middle pair, the drum reads 'Herenka'; in the minor niche of the northern pair, the drum reads 'Ishepet'.

(5) *Ka-door, Back of Inner Niche, Middle Panel*

In the early tombs the back of the inner niche pictures a man seated at a table of bread, or a man seated with staff, or a man standing, all facing right. The scenes with man or woman seated at table of bread in the attitude of the tablet scene are on the back of the inner niche in the *ka*-doors of (1) Hesy-ra (panel No. 5), (2) Kha-bauw-sokar (with old compartment list below), (3) Hathor-nefer-hetep (woman with old compartment underneath), (4) Hordedef, (5) Sekhemka, G I S 8. In the tomb of (6) Iy-nefer, northern niche, Iy-nefer is seated with staff in left hand, right half extended. The back of the inner niche in Nos. 1-5 is unusually wide. The niches which have a standing figure are of the large square form of the early compound niche, (7) Hesy-ra (five panels, two with titles only, and three with titles and offering list), (8) Neferma'at, Medum (with hands hanging open), (9) Atet (Neferma'at, with hands hanging (?) and son underneath), (10) Iy-nefer (south niche), (11) Rahotep (attitude uncertain: titles and name and offering formula), (12) Nofret (Rahotep standing with staff and wand), (13) Methen, (14) F S 3078, (15) Peher-nefer, (16) Prince Khent-ka (?) (G 2130), titles and name, but figure not preserved, (17) Seshat-hetep (on both niches), (18) Nesuwt-nofer (on north niche with hands open). In the examples Nos. 7-18 the figure is standing with staff and wand unless otherwise described, and with titles and name above in vertical lines. All figures whether seated or standing face to right. The inner niches of Prince Ka-wab and his wife, the wife of Hordedef, Prince Ra-bauw-f and his wife, and Queen Meresankh II and her husband were very wide and probably had on the back wall a figure seated at table like the niche of Hordedef. The inner niches of Prince Khufuw-khaf and his wife were not quite so wide, and may have had a seated figure with staff or standing figure. At Giza after the reign

of Cheops only four tombs had niches wide enough to admit a figure, Sekhemka, G I S 8, with old-style inner niche, Khufuw-dedef, Seshat-hetep (both niches), and Nesuwt-nofer (both niches), but these are not all of Dyn. IV. The other niches of the later part of Dyn. IV, and those of Dyn. V, were as a rule too rudimentary to admit of representations, but two tombs at Giza had a wide inner niche containing a statue coming out from the grave (G 5032 and Yasen, G 2196). In the broad shallow false doors of Dyns. V and VI the middle panel representing the back of the inner niche was often inscribed with vertical lines, and a small standing figure.

Other decorations on the back of the inner niche are rare. In the tomb of Min-dedef, G 7760, the panel has a palace-façade doorway, continued on the back of the outer niche. The back panel of the two niches of Mer-ib was painted to imitate granite. A few c.b. mastabas had, painted on the back of the inner niche, a representation of wooden door-leaves; see F S 3070 and G 2184. The Saqqarah mastaba has palace-façade panelling, and the Giza mastaba has a painted palace-façade.

(6) *The Sides of the Inner Niches (Thickness)*

The decoration of the side faces of the inner niche is more varied and less frequent than that of the back of the inner niche. The representations show (1) man or woman standing, (2) men bringing the funerary meal, and (3) estates bearing offerings, (4) tall jar-stands with jars of ointment; as follows:

(a) With standing figure, facing out:

- (1) Kha-bauw-sokar: on each side, man standing with staff and wand, facing out; titles and name above; old compartment list below.
- (2) Hathor-nefer-hetep: on each side, woman standing with far hand on breast and near hand hanging open; above, titles and name; below, old compartment list.
- (3) Methen: on each side, man standing with staff and wand, facing out; titles and name above.
- (4) Peher-nefer: on each side, man standing with staff and wand, facing out; titles and name above.
- (5) Akhet-a'a: on each side, above, titles and name; I reconstruct with man standing with staff and wand facing out.

(b) Men bringing the funerary meal:

- (6) Iy-nefer: on south *ka*-door, on each side, four (?) men facing in; in vertical row, bringing the funerary meal; on north *ka*-door in the same position, estates (see below).
- (7) F S 3078: on each side, vertical row of men facing in, of which only one is visible on each side.
- (8) Prince Hordedef, G 7220: wide deep inner niche; on each side, procession of men facing in bearing utensils and materials of funerary meal; defaced scene.
- (9) Sekhem-ka, G I S 8: wide deep inner niche; on each side, a scene in four registers of men bringing animals, birds, and food-offerings; on north at left end of lowest line, a table of offerings, and a kneeling priest with jar in each hand; on the south on the right of the lowest line, again a table of offerings, followed by a slaughter scene; an elaboration of the table scene similar to that of Kanofer (south and east walls).

(c) Estates bearing offerings:

- (10) Iy-nefer: on north *ka*-door; on each side, vertical row of two, originally four, estates facing in bearing offerings; for southern *ka*-door see No. 6 above.

(d) With vertical row of tall bowl-stands:

- (11) Mer-ib, G 2100-I ann.: on each side of both niches, vertical row of tall stands bearing vessels, half diorite and half pottery.

The standing figure of the owner is always represented facing out, coming forth from the grave. The figures bearing offerings, the servants of the *ka* and the estates, all face in, bringing their offerings to the appointed place. In the square compound niches of the reign of Chephren the sides of the inner niche were not decorated, perhaps because they were not plainly visible from the front. After the time of Chephren the increasing shallowness of the *ka*-door made it impossible to find room for any decoration whatever on the sides of the inner niche.

(7) *The Ka-door: Back of the Outer Niche*

The back of the outer niche, or the recess in which the *ka*-door is placed, presents two panels, one on each side of the inner niche. These panels, like the inner niche, are parts of the *ka*-door itself and represent the embrasure in which the actual doorway opens. They were almost always decorated, (a) with family group facing in, (b) with owner facing in, (c) with servants of the *ka* bringing offerings for the funerary meal, and (d) with tall bowl-stands.

(a) Children or wife and children:

- (1) Neferma'at, Medum 16: on north, Atet standing, facing in with right hand on breast and left hanging open; on south, vertical row of four sons facing in.
- (2) Atet, Medum 16: back of outer niche much broken; on the north Atet standing facing in, and perhaps one or two children below; on the south, three sons in vertical row facing in; with Neferma'at and son on back of inner niche; the figures form a complete family group.
- (3) Rahotep, Medum 6: on each side of outer niche; on each side, vertical row of three children; on north, two sons and a daughter; on south, a son and two daughters.
- (4) Nofret, Medum 6: on back of outer niche; three children on each side in vertical row facing in.
- (5) Sethuw, G 4710: on south, S. standing with staff and wand facing in; on north, wife and son standing facing in.
- (6) Iy-nefer (?), G 7810: single niche in L-shaped chapel; south obliterated, presumably I. standing with staff and wand; on north, his wife, Princess Nefert-kauw, standing facing in (head only visible).
- (7) Seshat-hetep, G 5150: two niches; decorated on both; on south side, S. standing with staff and wand facing in, and on north, his wife standing facing in.
- (8) Nesuwt-nofer, G 4970: two niches; decorated on both niches; on south side, N. standing leaning on staff facing in; and on the north, his wife standing with the right hand on breast, and the left hanging, facing in.

(b) Man or woman standing facing in, man with staff and wand:

- (9) Iy-nefer: on both north and south niches; on each side.
- (10) Methen: single niche; on each side.
- (11) Akhet-hetep: single niche; the decoration is inadequate, but I reconstruct as other cruciform chapels of this type.
- (12) F S 3078: single niche; on each side.

- (13) Peher-nefer: single niche; on each side.
- (14) Akhet-a'a: single niche; on each side; inscriptions only reported, but reconstructed as above.
- (15) Prince Khent-ka (?), G 2130: single niche in L-shaped chapel; standing figure.
- (16) Merytyetes, G 7650: on minor north niche, on each side, woman standing facing in, clad in ordinary tunic; on south niche, as reconstructed from lost stela of Mariette; woman standing facing in clad in tunic with peaked shoulder.
- (17) Kanofer, G 2150: two niches; on each side.
- (18) Mer-ib, G 2100-annex: two niches; on each side.

In a few cases a man is represented with staff, but with handkerchief or a roll of papyrus in the other hand. Two of the examples are from the subsidiary *ka*-door in the face of the mastaba.

- (19) Min-khaf, G 7430 + 7440: on southern subsidiary niche; on each side, man standing with staff and papyrus roll, facing in; on south, larger figure with full wig and sash; on north, smaller figure without wig or sash.
 - (20) G 7350: northern subsidiary niche; on each side, man standing with staff and handkerchief facing in.
 - (21) Rawer, G 5470, LG 32: single niche in middle of west wall; on each side, man standing facing in with staff and handkerchief.
- (c) With servants of the *ka*:
- (22) Seshem-nofer, G 4940: south *ka*-door; on each side, two men, one above the other, standing facing in, (a) with bell censer, (b) with ewer and basin, *hm-k* Rahotep, (c) with two strips of linen (named *Twf* . . .), (d) with cylinder jar, *hm-k* Yeshy; north *ka*-door undecorated; continued on sides of outer recess and on wall south of niche.
 - (23) Kaninesuwt, G 2155: south *ka*-door; on each side two men, one above the other, standing facing in: (a) *Imy r* *ššr Pri-ndw*, with cylinder jar, (b) with cylinder jar, (c) with folded linen, (d) man with bag over shoulder; continued on wall south of niche, (a) a scribe '*šš pr mdwt. Wehemka*', (b) holding two strips of linen, '*Yeduw-nefer-hetep*'.
 - (24) Kaninesuwt, G 2155: north *ka*-door; on each side one man standing facing in, holding *kbh* jar; '*Pennuw*' and '*Ib-ka-ptah*'; continued on adjacent wall north of niche, *hm-k* '*Im-sekher*' with ewer and basin.
 - (25) Thenty, G 4920: south *ka*-door; on south two men one above the other standing facing in: (a) with ewer and basin, (b) with bell censer; north side obliterated; continued on wall south of niche, (a) large figure, '*šndt, rh nšwt, yasen*', (b) smaller figure with goose, (c) as (b).
- (d) With tall bowl-stand:
- (26) Hordedef, G 7220: on both sides, one tall stand with basin.
 - (27) Khufuw-khaf, G 7140: on each side, one tall stand and basin.
 - (28) Meresankh II, G 7420: on each side, one tall stand and basin.

The examples given above are all from cased niches, cruciform chapels, and L-shaped chapels. At Giza in the rock-cut chapels the panels of the *ka*-door are either blank or obliterated. In the shallow false doors of Dyns. V and VI the first pair of side panels which represent the back of the outer niche had long vertical inscriptions in two or three lines with a small standing figure at the bottom of each.

All the figures on the back panels of the outer niche stand facing in. Of the eight examples of family

group, four from Medum show family groups of five or more persons, while those at Giza show only man and wife, or in one case man, wife, and one child. The Giza examples are certainly one or more generations later than the Medum examples.

The examples with man or woman standing facing in are from thirteen tombs, Nos. 9 to 21. The first six are from one cased niche, and five cruciform chapels. The other seven are from Giza, but carry on the traditional designs of the first six, modified in the latest mastabas by the substitution of a handkerchief for the wand, in the near hand.

The representations of servants of the *ka* bringing the funerary meal or other offerings occur in only three tombs, all of which are dated to the end of Dyn. IV or the early part of Dyn. V (Seshem-nofer (G 4940), Kaninesuwt, and Thenty). The three examples with a tall bowl-stand on each side are, on the other hand, all of the latter part of the reign of Cheops. A few examples may also be mentioned in which the back of the outer niche is decorated with a palace-façade doorway (see Min-dedef).

(8) *Ka-door, Outer Recess, Sides (Thickness)*

In the cased niches and the cruciform chapels of the early crude-brick mastabas, the sides of the outer niche (at the back of which was set the *ka*-door) were always decorated. In the very deep recesses of Neferma'at and Atet the sides of the outer niche presented an area equal to that of a wall space, and were decorated with wall scenes of known types. In the other cruciform chapels the outer niche is not so deep, and the representations are generally standing figures of the owner with a few other pictures such as compartment list, and estates bearing offerings:

(a) With wall scenes, or compartment list:

- (1) Neferma'at, Medum 16: sides of deep outer recess; on south, N. standing with staff and wand, with wife squatting behind him, facing out; 'viewing the [*htmt*] of the funerary endowment', list of offerings and estates bearing offerings; on north, a carrying-chair scene, with N. in chair facing out.
- (2) Atet, Medum 16: on sides of deep recess; on south, N. standing with staff and wand facing out, viewing boat-building in two registers, and wine-pressing scene in third (representation partially destroyed); on north, N. standing facing out holding hand of wife or daughter with his right hand, and with his left a staff, and the leashes of two dogs engaged in a hunting scene before him; on the north under the hunting scene a register of men bringing in wild animals, labelled 'bringing the *ndt hr* of the funerary endowment'.
- (3) Rahotep, Medum 6: on sides of outer recess; two old compartment lists on each side, separated by horizontal lines, 'the *htmt* of the funerary endowment'.
- (4) Nofret, Medum 6: sides of outer recess; on each side, above, an old compartment list, and below, two registers of male and female estates (3+4) bearing in offerings, total 14 estates.

(b) With man standing facing out:

- (5) Methen: on each side of outer recess; man standing with staff and wand facing out; titles and name above.
- (6) Peher-nefer: on each side of outer niche, man standing with staff and wand facing out; titles and name.
- (7) Akhet-hetep: on two sides of outer recess, titles and name, to be reconstructed as Methen.
- (8) Akhet-a'a: on each side, man standing with staff and wand facing out; titles and name.

(c) With estates bearing offerings:

- (9) Nofret: see No. 4 above.
- (10) Iy-nefer: on both niches on each side, a vertical row of male and female estates bearing in offerings; one register of two figures (male and female) is preserved; originally three or four registers.
- (11) F S 3078: on each side of outer recess, one estate bearing offerings is preserved; probably vertical row of three or four estates, all facing in.
- (12) Min-dedef, G 7760: outer recess on each side, vertical row of four estates bearing in offerings; three completely legible names are compounded with Cheops.
- (13) Prince Khent-ka (?), G 2130: on north side of outer recess is visible the lower part of one female estate facing in; I reconstruct a vertical row of four estates on each side.

(d) With men bringing funerary meal:

- (14) Prince Hordedef, G 7220: on south side of outer recess, two standing figures facing in; the upper is labelled *mrht* and *hm-k*, and the second carrying some object is labelled *šms* . . .; I reconstruct vertical row of four figures on each side; the procession is continued by vertical row of four or five figures on the adjacent wall south of the niche, where the two lowest figures bearing geese are visible, of which the lowest is labelled *itt špdw*.
- (15) Khufuw-khaf, G 7140: on each side, vertical row of five men bringing the utensils and materials of the funerary meal; on the adjacent narrow space south of the niche is a vertical row of four estates bearing offerings.
- (16) Ka-m-sekhem, G 7660: badly preserved; there appears to be a vertical row of four figures on each side facing in; either estates bearing offerings or men bringing funerary meal.
- (17) Seshem-nofer, G 4940: on sides of outer recess, in continuation of procession on back of outer recess, vertical row of at least three men facing in, *hmw-k* bearing utensils and materials of the funerary meal; the procession is continued on the wall south of niche.

(e) With tall stands and vessels:

- (18) Mer-ib, G 2100-I ann.: on both *ka*-doors; on each side, vertical row of five tall stands with basins, all painted red.
- (19) Seshat-hetep, G 5150: on both *ka*-doors; on each side vertical row of four tall stands bearing vessels; on south niche, two basins, a jar, and a table; on north niche, two basins and two jars.
- (20) Nesuwt-nofer, G 4970: on both niches; on each side face of outer recess (?) vertical row of five tall stands bearing vessels, basin, *kbb* jar, basin, *kbb* jar, basin.
- (21) Thenty, G 4920: south niche, south side only preserved; intervening in procession of *hmw-k* bringing in the funerary meal, which is represented on the back of the outer recess and on the wall south of the niche, the side of the outer recess has two registers, a son standing with arms hanging, facing in, and, below him, a basin on a tall stand; the north side was probably similar.
- (22) Yeduw, G 7102: false-door stela in middle of west wall; set in recess in west wall; on each side of the recess are seven registers each with three ointment jars; jars not identical on both sides; labels same on both sides, *št* *hb*, *hknw*, *št*, *nḥnm*, *tw-wt*, *hst-t nt cš*, *hst-t nt thnw*.

The decoration of the sides of the outer niche in the early tombs, cased niches, and cruciform

chapels was, as the above list shows, carried out in all tombs, with an elaboration commensurate with the space available. For the more narrow spaces of the square compound niches the standing figure facing out was the usual representation, but in two cases (Iy-nefer and F S 3078) estates in a single vertical row are pictured, facing in. At Giza the standing figure of the man facing out never appears, and there is only one case of a vertical row of estates facing in (Min-dedef). Closely allied to the vertical line of estates bearing offerings is the vertical line of servants of the *ka* bringing in the utensils and materials of the funerary meal, in the tombs of Hordedef, Khufuw-khaf, Ka-m-sekhem, and Seshem-nofer (G 4940). The chapels from the end of Dyn. IV at Giza introduce a new representation, a vertical row of tall stands bearing vessels, which is used on other panels of the offering-niche occasionally during Dyn. IV.

(9) *West Wall, North and South End: Spaces subsidiary to the Offering-niche*

In a few of the cases described above the representations on the panels of the niche were continued on the wall adjacent to the niche. The wall concerned is of course the west wall, and the spaces used for scenes adjunctive to the niche scenes are usually the narrow strip south of the niche in the one-niched chapel, and in the two-niched chapel south of the south niche and north of the north niche. Even when the representations on the panels of the niche are figures of the owner standing, the adjacent north or south end of the west wall may bear a vertical row of servants of the *ka*, bearing offerings, or estates, or personal attendants:

- (1) Hordedef, G 7220: wall south of niche; vertical row of four figures facing in, men bringing funerary meal; subsidiary to sides of outer recess, men bringing the funerary meal.
- (2) Khufuw-khaf, G 7140: south of single niche; vertical row of four estates facing in; subsidiary to men bringing funerary meal on sides of outer recess.
- (3) Queen Merytyetes, G 7650: north of northern niche; three registers of two figures each facing in, perhaps bringing funerary meal; subsidiary to standing figure on back of outer recess.
- (4) Min-dedef, G 7760: south of niche, two or more registers of three estates each, facing in; subsidiary to estates on side of outer recess.
- (5) 'Prince' Zaty, G 7810: on wall south of niche, three registers of three *hmnw-ks* each facing to south and bringing the funerary meal; not subsidiary to niche, but to table scene on south wall.
- (6) Seshem-nofer, G 4940: wall south of south niche; vertical row of two men, originally four or five, bearing offerings; in continuation of men bringing the funerary meal on back panels and sides of outer recess.
- (7) Seshem-nofer, G 4940: wall north of north niche; vertical row of four female attendants, standing facing out to north, bearing personal effects; subsidiary to family group on north wall.
- (8) Kanofer, G 2150: wall south of southern niche; two registers of two figures each, facing in, men carrying haunch of beef, &c., and two women, carrying boxes, &c.; continuation of chief scene between the two niches.
- (9) Seshem-nofer, G 5080: wall south of south niche; mother standing, facing in; on wall north of north niche, vertical row of four or five sons, standing facing in; both these representations are subsidiary to chief scene between two niches, which shows a family group in table scene.
- (10) Mer-ib, G 2100-Iann.: wall south of south niche; three registers, of which the topmost contained a chief scene (M. seated, facing in, 'viewing the document(?) of the house of the weaving women' with three scribes facing him); reg. 2 shows three men bringing in funerary meal; reg. 3 is a slaughter scene; on *ka*-door panels, standing figure of M.; it is not clear whether the two lower registers belong to the chief scene above or to the presentation scene between the two niches.

- (11) Mer-ib, G 2100-I ann.: wall north of north niche; vertical row of four men standing facing in, bringing the funerary meal; on panels of niche, standing figure of M.; the figures on the north may be considered as subsidiary to the presentation scene between the two niches.
- (12) Seshat-hetep, G 5150: on wall south of southern niche three or more registers of servants of the *ka* facing in, and on adjacent edge of the west wall north of the south niche, four figures facing in to left; bringing the funerary meal, including a man carrying a young hyena; presentation scene between the two niches; tall bowl-stands on side of outer recess.
- (13) Seshat-hetep, G 5150: wall north of northern niche; vertical row of three or more servants bearing *kbbh* jar and bag, basket of offerings, and haunch of beef with heart-shaped jar, bag, and sandals, the lowest figure labelled *nhšy*.
- (14) Nesuwt-nofer, G 4970: wall south of south niche; vertical row of four *hmw-k* facing in, bringing in the funerary meal, *kbbh* vase, bell censer, table of cakes, and haunch of beef; subsidiary to standing figures on back of outer recess.
- (15) Nesuwt-nofer, G 4970: wall north of north niche; vertical row of four servants bearing personal effects, standing facing in; two men labelled *nhšy* and two dwarfs.
- (16) Kaninesuwt, G 2155: wall south of south niche; above, a scribe, and below, a man holding out two strips of cloth, both facing in; probably continuation of servants on back of outer recess.
- (17) Kaninesuwt, G 2155: space north of north niche; above, figure of wife standing facing out to right, and obviously belonging to scene on north wall; below her, a *hm-k* with ewer and basin facing in, and belonging to the two figures on the back of the outer recess.
- (18) Thenty, G 4920: wall south of south niche; above, a larger figure, an official of the *śndt* (label partly obliterated); below, two men standing also facing in, each with a live bird; probably the continuation of the men represented on the back of the outer recess (servants of the *ka*).
- (19) Thenty, G 4920: wall north of north niche (dummy niche); two registers, priests facing in to left; above, *hry wdb* in usual attitude except that the hanging hand is open; *wd iht*; below, a *wt* kneeling with both hands closed, *śmnt śh n wt*.
- (20) Rawer, G 5470 = LG 32: on west wall on each side of single niche, a vertical inscription, offering formula, with small figures of Rawer at bottom facing in.
- (21) Ka-seza, G 5240 = LG 37: wall north of south niche; three registers of two men each, facing in to left, bringing in the funerary meal; behind them, palace-façade panel.
- (22) Ka-seza, G 5240 = LG 37: wall north of north niche; three registers of two men each, facing in, bringing in the funerary meal.

The scenes on the end faces of the west wall are in three cases subsidiary, wholly or partly, to scenes on the adjacent walls. In No. 5, the chapel of 'Prince' Zaty, the south end wall bears figures of men facing to left bringing the funerary meal, and obviously subsidiary to the table scene on the south wall. In No. 7, Seshem-nofer (G 4940), on the north end a vertical row of female attendants bearing personal effects is subsidiary to the family group on the north wall, and in particular to the figure on the left, the wife. In No. 17, Kaninesuwt, on north end, the larger upper figure of the wife standing facing to right is subsidiary to the scene on the north wall, while the small lower figure of a *hm-k* with ewer and basin faces in to left and is subsidiary to the north niche.

In two cases the end scenes are subsidiary to the chief scene between the two niches. In No. 8 (Kanofer) the men bringing the funerary meal in the chief scene are continued south of the niche. In

No. 9 (Seshem-nofer, G 5080) the family group in a table scene between the two niches is continued by the mother at south end, and four sons at north end of west wall.

In No. 10, Mer-ib, south of south niche, a wider space is occupied by a small independent scene of M. seated viewing the document (?) of the house of the weaving women, with three scribes in front of him. Below this scene are two registers, three men bringing in the funerary meal, and a slaughter scene.

In the other sixteen examples the scenes on the end spaces are subsidiary to the adjacent niche. In the majority of cases the representation is that of *hmw-k* bringing in the utensils and materials of the funerary meal. In some cases, difficult to distinguish from the bringing of the funerary meal, only one or two *hmw-k* are represented, bearing ewer and basin or similar:

(a) *Hmw-k* bringing the funerary meal:

- (1) Subsidiary to men bringing the funerary meal on the panels of the outer recess: Nos. 1 (Hordedef), 6 (Seshem-nofer), 16 (Kaninesuwt), 17 (Kaninesuwt), and 18 (Thenty); total, five examples.
- (2) Subsidiary to standing figures on back panels of outer recess: Nos. 3 (Merytyetes), 11 (Mer-ib), 12 (Seshat-hetep), 13 (Seshat-hetep), 14 (Nesuwt-nofer).
- (3) Subsidiary to uninscribed niche: Nos. 21 and 22 (Ka-seza).

(b) Estates bearing offerings:

- (1) Subsidiary to men bringing funerary meal on sides of outer recess: No. 4 (Min-dedef).
- (2) Subsidiary to estates on sides of outer recess: No. 2 (Khufuw-khaf).

(c) Attendants bearing personal effects (grave furniture?): No. 15 (Nesuwt-nofer).

(d) With priests: (1) subsidiary to dummy niche on north, *hry wdb* making offerings (*wd iht*) and *wt* performing the *snmt sh*: No. 19 (Thenty).

(e) With offering formula and small standing figure, on each side of a middle niche: No. 20 (Rawer).

The end spaces were obviously filled out arbitrarily by the decorator of the chapel according to the space left by the masons in constructing the west wall. In three cases it was used to amplify scenes on the adjacent north and south walls, and in two cases to amplify the chief scene between the two niches. In one case an independent scene was composed with a unique label, viewing the work of the weavers. In all the other sixteen cases the scenes on the end spaces are clearly subsidiary to the niche itself. In twelve cases the representations are of servants of the *ka* bringing personal effects (funerary equipment), and in two cases estates bearing offerings. All these are natural adjuncts to the *ka*-door. In No. 20 (Rawer) the inscription with small figure is in line with the developments of the shallow false door of Dyn. VI.

3. THE DECORATION OF THE EARLY ROCK-CUT CHAPELS

The early rock-cut chapels of type RC (i) beginning in the reign of Mycerinus and extending into Dyn. V (early part) are contemporaneous with the later chapels of types (3) and (4). As has been pointed out, the earliest of these chapels represent a combination of the decorations of the interior and exterior stone chapels of the children of Cheops, and take the form they present by reason of their excavation in the rock. As a result the offering-room lettered b by me takes an entirely different form from that of the L-shaped chapels. The only wall in this offering-room which can be compared to the walls of the L-shaped chapel is the west wall with its one or two offering-niches (*ka*-doors). In general this wall presents two niches. Unfortunately this wall is preserved only in the tomb of Nekauwra, where it bears a table scene.

a. The Decoration of the West Wall of the Offering-room

West wall of offering-room:

- (1) LG 87: Prince Nekauwra: table scene between two niches; on west wall of offering-room (b): prince seated facing to right at table of bread in obscure attitude; over him vertical lines giving offering-formula and titles and name; over the table a late compartment list; to right of table under the compartment list, a horizontal line of offerings, and two registers, (1) four men bringing the funerary meal 'for the king's son Nekauwra', and (2) two slaughter scenes.

In the tomb of Debehen the space between the two niches is occupied by palace-façade panelling with vertical inscriptions. In the tomb of Prince Nebemakhet (LG 86) the space between the two double niches is again taken by a palace-façade panelling, while on the outer sides of the niches (south of south niche and north of north niche) offering-bearers appear, subsidiary to the niches. In the inner offering-room of Queen Meresankh III, the single niche is flanked on each side by a pair of statues (Meresankh and her mother, Hetep-heres), and on each side of this central group is a palace-façade panelling. In the later rock-cut chapels of Dyns. V and VI the table scene appears again on the west wall of the offering-room (see Yasen, Ankh-ma-ra, and Yeduw).

b. The Scenes on Other Walls of the Rock-cut Chapels

The position of the various types of scenes on the other walls of rock-cut chapels does not appear to bear any relation to the arrangement in the L-shaped chapels. In addition, a number of new scenes are introduced which are not represented in the L-shaped offering-rooms of the mastaba. Therefore I group the scenes in the rock-cut chapels under the types of scenes.

(1) *Table Scene*

- (1) G 7530: Queen Meresankh III: room (b), south wall; facing to left (out): late compartment list: on left, two registers, (1) ideographic list, *wt* and another priest, (2) three *hm-k* priests bringing food-offering; under whole scene, a judgement scene presided over by the chief *hm-k*, Khemten.

It seems clear that the table scene was not frequent in the early rock-cut chapels. In the later rock-cut chapels it is also infrequent except on the west wall (see, however, Khafra-ankh (LG 75), south wall, and Qar (G 7101), four scenes).

(2) *The Offering Scene in the Rock-cut Chapels*

The offering scene in the L-shaped chapels is a comparatively small scene on one of the end walls. In the rock-cut tombs this scene is greatly enlarged and varied by the introduction of subsidiary elements. In a certain number of scenes the offering scene is combined with the great pavilion containing the picture list of offerings. I give first the enlarged offering scene and afterwards the pavilion scenes:

(a) *Large offering scenes.*

- (1) LG 90: Debehen: room (a), north wall (screen wall); man seated facing right with fly-whisk in left hand and right extended palm down; in front of figure, picture list in three registers: reg. 4, singers and musicians; reg. 5, dancing girls.
- (2) MQ 1: Prince Khuwnera: room (a), south wall; Queen Kha-merer-nebty II seated facing right, holding lotus in right hand and the wrist of her son with her left in front of her; Khuwnera as naked boy, standing facing right with right hand in mother's lap and hoopoe in his left hand; behind the queen, three female attendants; in front of chief figures (on the right), five registers;

regs. 1-4, picture lists interspersed with small groups of men preparing food; reg. 5, singers and musicians; under whole scene, reg. 6, unfinished, dancing girls.

- (3) G 7530: Queen Meresankh III; room (a), south wall, upper half: queen seated facing to left (out), holding lotus to nose in left hand and another lotus in right hand; in front of her, squatting girl and dog; picture list in five registers; to left of picture list, three registers; reg. 1, thirteen men facing to right, standing, priests or household officials; reg. 2, ten men bringing food-offerings; reg. 3, three men carrying birds and haunches of meat, slaughter scene, and two men (one bringing oryx and one bearing gazelle).
- (4) G 7530: Queen Meresankh III: room (b), north wall; queen seated facing to right (out), holding lotus flower in right hand and another (?) in extended left; in front of her, on right, two registers and below the whole, two more, regs. 1 and 2; mixed figures, man kneeling holding out two *mw*-pots, men bringing food-offerings (alive or dressed), musicians, singers, and dancers; reg. 3, men (over five) bearing food, followed by scene showing basket of cakes, man filling basket with cakes, man and woman lifting a basket of cakes; then finally three sub-registers of a picture list (cakes, cakes in basins, and wine-jars); reg. 4, wine-cellar scene and five small baking scenes.
- (5) LG 86: Prince Nebemakhet: offering-room (b), east wall, north of entrance; chief figure or figures and most of the registers obliterated, parts of the lowest three registers are preserved near the doorway; reg. x+1, picture list; reg. x+2, two slaughter scenes; reg. x+3, dancing girls.

(b) *The pavilion scene.*

- (1) LG 87: Prince Nekauwra: room (a), south wall; west of eastern entrance; man seated in arm-chair facing to left (out), with left arm hanging over arm of chair and right holding lotus; he sits on one side of a great pavilion supported by four poles (lotus columns); in front of him and under the pavilion are six registers divided into two columns by the third pole of the pavilion; all registers except the left half of reg. 6 contain a picture list of offerings (circular and rectangular tables with cakes, meat, fruit, and vegetables, baskets, platters, jars on stands, ewer and basin, &c.); from roof of pavilion hang meat pieces; in the left half of reg. 6, singer and harpist, singer and flute-players.
- (2) LG 89: Prince Sekhemkara: room (a), east wall; man and mother seated on one chair, facing out to right (details obliterated); in front of them, pavilion with roof supported by five lotus columns, with row of meat pieces hanging from roof; below, three registers; regs. 1 and 2, picture list of offerings (circular and rectangular tables, stands, and baskets as in Nekauwra); reg. 3, three men standing facing to left, three circular tables of offerings, and three large wine-jars; reg. 4, under whole scene, partially preserved, dancers and musicians on left.

These offering scenes are connected with each other and with the offering scenes in the L-shaped chapels by the elaborate picture list of offerings. In the three L-shaped chapels, Mer-ib, Seshat-hetep, and Nesuwt-nofer, the scene shows scribes reading or writing the list of offerings. In the rock-cut tombs the plain offering scene is greatly expanded. Little cooking scenes are introduced, and musicians and dancers. The musical and dancing scenes appear for the first time in these scenes and become one of the marked features of the offering scenes of Dyn. V.

One of the notable features is the combination of the picture list of offerings with the great pavilion. The pavilion scene occurs from early times in two forms, both undoubtedly represented by the word *sh*. In the tomb of Hesy-ra (Dyn. III) on the east wall of the chapel is painted a great pavilion containing

pictures of funerary equipment (*htmt*) with a seated figure of the owner facing the pavilion (?). In the tomb of Methen, Methen is shown on the south wall, seated under a kiosk, while the offering ceremonies are carried out before him (washing the hands, &c.). At Giza, in the reign of Mycerinus and a little later, both the kiosk and the pavilion appear, the great pavilion in the great rock-cut tombs, and the kiosk scene in the L-shaped chapels. In Dyn. V both forms of the scene continued to appear in the late mastaba chapels and in rock-cut tombs. In one very important rock-cut chapel of Dyn. V, the tomb of Yaseu (G 2196), the owner is seated in a kiosk (not in a pavilion) viewing a great picture list with typical small scenes of cooking, dancing musicians, and funerary priests. The great pavilion occurs in the large mastaba chapel of Iy-mery (G 6020). One of the characteristics of the *sh* scene of both types is that the owner is seated in an arm-chair, usually holding a fly-whisk and often receiving a lotus.

(3) *The Presentation Scene*

The presentation scene appears in the rock-cut chapels as follows:

- (1) LG 87: Prince Nekauwra: room (b), north wall; man and wife standing facing in to left; viewing the [*prt hrw*] brought by the estates of the funerary endowment; in front of chief figures, five registers facing to right; reg. 1, scribes; reg. 2, scribes and herdsmen bringing in animals (cow, ass, &c.); reg. 3, scribes, seven male and female estates, a bull, *ndt hr*; reg. 4, seven male and female estates, of which the seventh leads a hyena (bringing hyena, *ndt hr*); reg. 5, scribes, man bringing in a bull, and the rest obliterated or uninscribed.
- (2) LG 89: Prince Sekhemkara; room (a), east wall; man and wife seated on one arm-chair, facing out to right; in front, a vertical line, 'viewing the offerings of the headmen and herdsmen, . . . and the fishermen, which were brought from the estates of the funerary endowment', titles and name; to the right, the upper three registers are preserved; reg. 1, four sons squatting facing to left, then eighteen estates (all Chephren compounds); reg. 2, bird-trap scene; from left, five men bringing birds, men handling boxes of birds, man bringing papyrus, man pulling papyrus, men taking birds out of a sprung trap, and men springing a trap: rest obliterated; reg. 3, badly obliterated, men taking fish from net; the remaining registers are nearly completely obliterated.
- (3) G 7530: Queen Meresankh III: room (a), east wall north of entrance; no chief figure in the usual scene, but included in the scene is a picture of Hetep-heres II and Meresankh III pulling papyrus in a swamp and at the end to the left of this Ka-wab standing facing away to left; on right four registers; reg. 1, thirteen estates, male and female, facing to left; reg. 2, bird-netting scene with two sub-registers (on right mat-making, and men putting birds in box and other men plucking birds); reg. 3 extends under large scene of the two queens, men bringing birds and cattle to left; reg. 4, under reg. 3, two scenes of boatmen fighting ('coming forth from the swamp with lotus flowers by the Deltamen (?)'), sowing scene ('tilling with sheep'; 'sowing the seed').
- (4) LG 86: Prince Nebemakhet: outer room, south wall; Nebemakhet and his sister Shepseskauw, standing, facing to right; vertical line, beginning 'viewing . . .'; to right, traces of five registers facing to left; reg. 1, three scribes squatting facing to left (of which second and third are writing), bird-netting scene; reg. 2, partly obliterated, sowing and ploughing; reg. 3, bird-netting scene; reg. 4, nearly gone but two boats, being rowed; reg. 5, obliterated, but the word *rn hrw* indicates men bringing cattle and other animals.

These four scenes provide the chief features of the presentation scene of the L-shaped chapels, the scribes preparing the lists and other documents, the rows of estates bearing offerings, and the bringing of animals. But the scenes are extended to contain elements not found on walls of L-shaped chapels, in particular the trapping of birds in the swamp, and even the cultivation of the endowed estates. The extended presentation scene with the addition of swamp scenes and agricultural scenes was continued in the later chapels of Dyns. V and VI. Later the swamp and the bird-netting scene became practically independent scenes. In the cruciform chapels of Medum the bird-netting scene and the agricultural scenes already occur as small independent scenes. Their introduction in the great wall scenes of the rock-cut chapels at Giza does not represent a new invention, but only the inclusion of scenes already known within the registers of large scenes.

(4) *Scenes of Craftsmen at Work and Pictures of Funerary Furniture in the Early Rock-cut Chapels*

In the early rock-cut tombs at Giza the wall scenes include two great scenes (often associated or combined) of craftsmen at work and pictures of funerary furniture. These scenes, although used in the large chapels of Dyns. V and VI, are not among the scenes found on the walls of the interior L-shaped chapels.¹ Nevertheless, the basic idea of both these scenes is represented by processions of figures bearing funerary furniture which occur in the cruciform chapels and in the L-shaped chapels of all periods. In the tomb of Rahotep of Medum, on the east wall, over the entrance doorway, is a boat-building scene. The large scenes in the rock-cut chapels at Giza of craftsmen are here expanded by reason of the great wall area offered for decoration.

The scenes of craftsmen at work show the manufacture of the whole funerary equipment, including boats, statues, sarcophagi, stone vessels, stelae, wooden furniture, and personal ornaments. The scenes giving pictures of the wooden furniture are usually closely associated with the pictures of the craftsmen at work. They show as the main objects the bed and the bed canopy, the carrying-chair, the arm-chair, head-rest, caskets, and similar objects. It is to be noted that this equipment was actually found in the secret tomb of Hetep-heres I (mother of Cheops) and appeared there to be objects taken from her palace, partly made for her by Sneferuw and partly by her son Cheops. It seems clear, therefore, that these pictures of furniture represent the household furniture deposited in the burial-chamber. It is for this reason that I have marked all the representations of men bringing similar objects as the bringing of the funerary furniture. The association of the furniture scene with the craftsmen at work proves, I think, that the latter are shown making the funerary equipment, including all things placed in the tomb.

The scenes of these two kinds in the early rock-cut tombs are as follows:

- (1) G 7530: Queen Meresankh III: room (a), east wall south of entrance, craftsmen at work, no chief figure; five registers; reg. 1, two river-boats proceeding to left, (a) usual river-boat rowed by six men with Meresankh in chief place in carrying-chair, (b) papyrus raft paddled by three men, with Meresankh on throne and smelling lotus flower; reg. 2, two river-boats (prow in form of recurved animal head) with long cabins, rowed by eleven and eight men respectively, proceeding to left (Meresankh invisible in sheeted cabins); reg. 3, the painter Rahay painting a statue, the sculptor Yenkaḥ carving a statue, three men dragging statue in shrine to right (man with censer and another steadying the shrine), three men dragging seated statue (man with censer); reg. 4, two men polishing granite sarcophagus, man working on wooden

¹ A fragment showing a man with an adze from G 4000 (Reg. No. 25-12-301) suggests that there may have been a crafts-work or boat-building scene in the chapel of Hemyuwen. Something similar is suggested by fragments from the chapel of Duwanera (G 5110).

- coffin (?), man making a *ka*-door stela, and a man striding to right; reg. 5, shelter on three poles, under which is gold-beater and four men with blow-pipes melting gold, in two sub-registers, (a) men making or covering with gold a low stand and a round-topped chest, (b) making a carrying-chair and some other object, rest obliterated; on the adjoining south wall is a scene picturing the funerary furniture, which is clearly a continuation of the craftsmen scene in regs. 3-5 of the east wall, as follows: south wall, lower scene, on right, bed canopy with bed and head-rest and two servants making the bed; on left of canopy, two sub-registers: sub-register a, arm-chair with woman laying fan on chair, carrying-chair with fan and man laying on it a pole, woman with flap fan and bag, man with long box, two women carrying chest, two women carrying chest on shoulders with monkey under chest, two women each with tray; sub-register b, long box with smaller box on top, chest on legs, tall bag with calf's head, long box with table with fly-whisk, two women carrying shrine, four women each bearing a tray or other object, two women bearing indeterminate object, female dwarf with indeterminate object on head, five women who are nearly obliterated; on the extreme right of this scene, separated by a vertical line, stands the painter Rahay painting a statue.
- (2) LG 86: Prince Nebemakhet: east wall of room (b), south of entrance; man and wife standing facing in to right; man with staff, wand, and sandals; in front of him, monkey and baboon; behind the chief figures pictures of furniture in four or five registers; reg. 1, bed canopy with bed, head-rest, and two servants; reg. 2, three men facing to right bearing bag and fly-whisk, long box and bag, panther garment (?); reg. 3, three men facing to right bearing staff and bag, box, and fan and bag, and a fourth man, a priest, kneeling with right hand closed on breast and left extended; in front of Nebemakhet are five registers of craft scenes; reg. 1, jewellers and pictures of necklaces; reg. 2, men preparing mud for jar-sealings, man sealing a jar, row of jars, man filling a jar; on the right of regs. 1 and 2, a wine- or oil-press scene; reg. 3, men making stone vessels, two statues, wooden bed; reg. 4, men smelting gold and beating gold; reg. 5, men making copper vessels and weighing copper (?) or copper vessels.
- (3) MQ 1: Prince Khuwnera: room (a), east wall, south of entrance; Khuwnera standing with staff and wand facing out to left, 'viewing the construction of the boats, and the execution of the work by . . .'; in front of Khuwnera, the scribe, Ptah-hetep, facing him; behind Khuwnera three attendants (man with box and fly-whisk), man with fan and bag (*hrp sh* Akhy), man holding out garment; in front of chief scene, five registers of craftsmen at work; regs. 1 and 2, men building two boats in each register; reg. 3, making stone vessels, polishing a sarcophagus, making and painting statues; reg. 4, rope-making or similar, gold-beaters and metal-workers, rest illegible; reg. 5, carpenters making beds, chairs, and boxes, other workmen making sandals, wooden objects, engraved seals; rest obliterated.

In the chapel of Nebemakhet, a wine-press or oil-press scene is added to the picture of men sealing jars. The wine-press scene is in other later cases included in the agricultural scenes. It is in fact one of the old scenes represented in the cruciform chapel of Neferma'at of Medum.

Attention is to be called to the fact that each of the above three scenes presents its own individual composition, and that each of the small component scenes even in the same great scene was also composed individually (cf. the four boats in Khuwnera). The first two contain the pictures of the finished funerary equipment or household furniture, while the third scene omits it. The group of wooden furniture is repeated in a rock-cut tomb of Dyn. V, the tomb of Ankh-ma-ra, G 7837 (Eastern Cliff), in room (b), east wall, north of doorway, where without any chief figure a reduced scene shows bed canopy,

bed, head-rest, with three servants, and to the right two sub-registers showing other furniture, partly carried by men. Below this register are two registers, (1) two men playing a board game, and musicians and singers, (2) five men and dwarf leading hound and monkey, bearing chests, &c. The furniture scene appears to have stood (as in Nebemakhet) behind the chief figure or figures viewing swamp scene, presentation of animals and cattle, and a procession of estates. The representation of funerary equipment, including the wooden furniture, continued to appear in chapels of Dyns. V and VI at Giza and Saqqarah, both independently, and as part of other scenes.

The great scene of craftsmen at work manufacturing the whole funerary equipment became a feature of the majority of the great mastaba chapels of Dyns. V and VI, and is to be found at Giza in the tombs of Iy-mery (G 6020), Khufuw-khaf II (G 7150), and Senezem-ib-Mehi (G 2378). At Saqqarah scenes occur in the tombs of Thiy, Mereruwka, Ankh-ma-hor, and Ka-irer. At other sites we have Ptah-shepses at Abusir, the tombs of Ny-ankh-Pepy and Khuwnes at Zawiyet-el-Meyyitin, the tomb of Wer-ir-en at Sheikh Sa'id, at Der-el-Gebrawi the tombs of Iby and Zaw, at Meir the tomb of Pepy-ankh (a 2), at Deshasheh tombs of Yenti and Sheduw. One of the important craftsmen scenes is that in the tomb of Ka-m-remeth, originally from Saqqarah, but now in the Cairo Museum. These scenes present a nearly continuous series running through Dyn. V and into Dyn. VI, and undoubtedly owe their existence to the same type of scenes composed as far as we know for the rock-cut tombs of the family of Chephren at Giza.

(5) *Family Group*

The wall scenes of the rock-cut tombs present the usual combinations of the man and his family in the chief figures of the table scene, the offering scene, the presentation scene, and so forth. In addition to the man alone we have man and child, man and wife, man with wife and one or two children. In other cases the children are pictured in the top register of the scene in front.

- (1) LG 89: Prince Sekhemkara: room (a), east wall; presentation scene; man and wife seated on one chair; reg. 1, four sons squatting facing chief figures.

The representation of the children as a register in other scenes becomes more frequent in the rock-cut tombs and the later mastaba chapels. The scene which I designate the family group refers to groups of the family pictured as separate scenes, not as subsidiary to other types of scene. The 'family group' in this sense can be traced from the cruciform chapels through the L-shaped chapels and, in the rock-cut tombs of the family of Chephren, appears twice in very distinct form:

- (1) G 7530: Queen Meresankh III: room (a), west wall, north of entrance to room (b); family group with three large figures facing in to left, Queen Hetep-heres II, her daughter, Queen Meresankh III, and her grandson Prince Nebemakhet; with small figures, small girl kneeling behind Hetep-heres, small naked boy standing in front of Meresankh, named Khent-r-ka, holding lotus with his left hand to his mother and holding hoopoe in right hand; behind Nebemakhet, three naked children in vertical row, boy, girl, boy.
- (2) LG 86: Prince Nebemakhet: room (b), east wall over doorway; the mother Meresankh III on right facing to left; before her, facing to right, Prince Nebemakhet, Princess Shepseskauw, and Prince Duwanera.

These two family groups give in the first generation Queen Hetep-heres II, who is known to have been a daughter of Cheops married first to Ka-wab and then to Radedef, in the second generation Queen Meresankh III, married to Chephren, and in the third generation Prince Nebemakhet, Princess Shepseskauw, and Prince Duwanera, whom I identify with the owner of G 5110.

c. The Expansion of the Presentation Scene in the Early Rock-cut Chapels

The great wall areas of the early rock-cut tombs permitted an expansion which included not only a considerable lengthening of the registers, but also the inclusion of elements not represented in the L-shaped chapel. The three forms that these new elements introduced are (1) the boating scene, (2) swamp scenes, and (3) agricultural scenes. In some of these new scenes, in particular the swamp scene, a new type of representation is introduced, in which the owner is represented by a figure of unusually large size actively employed in the midst of the scene. This type of representation is foreshadowed in certain scenes in the tomb of Neferma'at of Medum, but becomes a recognized part of chapel decoration only after the decoration of the early rock-cut chapels. In contrast to these scenes with the large figure of the owner active in the midst of the scene there are other representations in which the owner appears on river-boats, and in carrying-chairs properly proportioned to the rest of the scene.

(1) *The Boating Scene: River-boats being Sailed, Rowed, or Paddled*

The use of the great river by means of large boats for the transport of agricultural produce and manufactures played a great part in the development of Egypt. Such river-boats were used also for the transport of administrative officials, armed forces, and for the collection of taxes. They were no doubt used also for the purpose of pleasure excursions on the river. When the Nile was high and communication by water open to the swamps, boats could also be used for local purposes, the tending of the herds pastured in the swamps, hunting, fishing, and the gathering of papyrus and other swamp plants and flowers. In the swamps, however, the papyrus raft was more frequently used and appears in many swamp scenes of all types. For a description of the various river-boats and papyrus rafts, see Reisner, *Catalogue Générale, Models of Ships and Boats*.

The scene showing large or small boats being sailed, rowed, or paddled occurs in the rock-cut tombs as a register in other scenes, as follows:

- (1) G 7530: Queen Meresankh III: room (a), east wall, two registers over a large scene of craftsmen at work; four boats proceeding to left; reg. 1, ordinary wooden boat with Meresankh sitting in her carrying-chair, and papyrus boat with Meresankh on throne¹ and two female attendants (sunshade and fly-whisk); reg. 2, two flat boats with long covered and sheeted cabins with animal head on prow.
- (2) LG 89: Prince Sekhemkara: room (a), west wall; the chief figures are Queen Hez-hekenuw seated facing to left with her son as a boy standing before her, facing also to left; in front is the beginning of a vertical line, 'viewing the rowing of boats and the work of . . .'; of the scene in front, to the left, only parts of two registers are preserved; reg. 1, boat rowed by nine men, also pilot and another man; the prince standing, two steersmen, &c., boat with canopy; reg. 2, boat of same type being paddled (?) (*ir hr imy-wrt*); there were no doubt one or two more boats in each register; it is possible that the obliterated registers contained craftsmen at work; but any other type of scene is equally possible.
- (3) LG 86: Prince Nebemakhet: outer room (a), south wall; badly weathered and nearly illegible; on the left facing to right, Nebemakhet and Shepeset-kauw; in front of them a vertical line, 'viewing . . .'; traces of five registers; reg. 1, scribes and bird-netting scenes; reg. 2, agricultural scene; reg. 3, bird-netting; reg. 4, two boats being rowed, long cabin, flat-boat type; reg. 5, presentation of cattle (?).

The above boating scenes were subsidiary to other scenes, including the presentation scene. The

¹ A similar figure in a boat appears earlier on one of the fragments from the exterior chapel of Meresankh II (G 7410+7420).

scene of river-boats appears frequently in the L-shaped chapels of type (4) from the latter part of Dyn. IV and early in Dyn. V (see boating scene in preceding section). In these tombs the scene, always differing in details, was usually placed on the east wall of the offering-room over the entrance doorway. Most of the chapels of types (3) and (4) are so destroyed that the east wall over the doorway is gone when the rest of that wall is fairly well preserved. A large boat is represented in the top register of the north wall of Prince Ka-m-sekhem, which may be dated to the end of the reign of Chephren, but the destruction of the upper part of the walls makes it impossible to determine whether a boating scene was commonly used in the early L-shaped chapels. A boat being paddled also appears in the fragments of relief from the chapel of the queen's pyramid G I-b. We can only note the fact that in the chapels of type (4), contemporaneous with the early rock-cut chapels and following them in time, the boating scene appears regularly on the east wall over the doorway.

The boating scene as a register in the presentation scene, similar to the rock-cut scenes, is represented in the later rock-cut tomb of Khafra-anekh, LG 75 = G 7984, on the east wall where the top register contains five boats. The register of boats also occurs in the late chapel types (see Nofer, G 4861, east wall), where the register of boats sailed or rowed is in a mixed presentation and agricultural scene.

(2) *The Swamp Scenes*

The activities carried out in the swamps, particularly those of the Delta, are fully depicted in the large chapels of Dyns. V and VI.¹ The swamps were used in the following ways:

- (a) for the pasturing of cattle, which are frequently shown being herded across the open water, having pastured on the swamp grasses growing on the areas of dry land and in the shallow waters;
- (b) for the pulling of the whole supply of papyrus stalks used in the manufacture of sheets and rolls of papyrus for writing all sorts of documents, accounts, and letters; papyrus was also used for making rafts, mats, huts, roofing, and as roof supports (packed with mud);
- (c) for obtaining wild plants and particularly the blue lotus flowers so agreeable to the Egyptians of all periods;
- (d) for hunting birds and wild animals;
- (e) for the catching of fish by all the means employed by the Ancient Egyptians.

It seems clear that the swamps were to a certain extent held under private ownership, and these private swamp estates were frequently included in the funerary endowment (as is shown by the estate names).

The scenes in which the swamps and the swamp activities are represented present two forms: (a) the great swamp scenes in which the owner is represented engaged in hunting, fishing, or pulling flowers, and (b) minor scenes of swamp life (the herding of cattle, the transport of swamp products, the trapping of birds, the seining of fish, &c.).

(a) *The swamp scene with the owner represented acting in the midst of the scene.*

The large swamp scene with the owner on a papyrus raft acting in the midst of the scene gives a splendid conventionalized picture of the Egyptian swamps. The raft floats on open water containing fish, crocodiles, and hippopotami. Rising from the water as a background is a conventionalized picture of the swamp vegetation showing papyrus plants in bud and full flower, over the stalks of which creep small rodents and insects. Bird-nests are seen also resting on the stalks. Above and among the stalks a great medley of birds is shown flying, alighting, and sitting on nests, and among them butterflies,

¹ They have appeared already in the Medum chapels and can be inferred from fragments from the exterior chapels of Ka-wab (G 7120) and Meresankh II (G 7410+7420) as well

as the L-shaped chapel of Merytyetes (G 7650) and possibly that of G 7560.

dragonflies, and locusts. Subsidiary to this main scene, on the sides, are shown minor scenes, men in small boats fishing, spearing hippopotami, pulling papyrus, &c. These large swamp scenes play a great part in the decoration of the great mastaba chapels of Dyns. V and VI. The scenes in the great chapels present several distinct forms:

- (1) The scene in which the owner is hunting birds with a throw-stick: MM D 85 (Duwa-hap); MM E 7 (Akhet-hetep), Ka-m-nofret (Boston), Ptah-sekhem-ankh (Boston); LG 15 (Ra-shepses); Senezem-ib-Yenti (G 2370); Senezem-ib-Mehi (G 2387); Qar (G 7101); Sneferuw-yen-shat-f (Dahshur).
- (2) The scene in which the owner is hunting birds with a split spear: Nebemakhet (LG 86); Yasen (G 2196); Ka-m-ankh (burial-chamber) (G 4561); Werekhuw (LG 95).
- (3) Swamp scene with the owner spearing fish; Akhet-mery-nesuwt (G 2184); Weserkaf (temple); Sahura (temple); Duwahap (MM D 85); Hetep-her-akhet (MM D 60); Senezem-ib-Yenti (G 2370); Senezem-ib-Mehi (G 2387); Akhet-mehuw (G 2375); Nekhebuw (G 2381); Ka-m-ankh (chapel) (G 4561); Sneferuw-yen-shat-f (Dahshur); Yeduwt (Saqqarah); Mereruwka (Saqqarah).
- (4) Swamp scene with owner on raft leaning on staff and watching men harpoon hippopotami: Thiy (MM D 22); Senezem-ib-Yenti (G 2370).
- (5) Owner pulling papyrus flowers in swamp: Meresankh III (G 7530); Seneb (Junker's dwarf).

Elements of these scenes have been identified in the exterior stone chapels of twin-mastabas at Giza. In the rock-cut tombs the following examples can be identified:

- (1) LG 90: Debehen: room (b), east wall; this wall was cased with fine white limestone now almost completely destroyed; on one stone the lower part of a scene showing fish-seining with hippopotamus in the water; no doubt a fish-spearing scene.
- (2) G 7530: Queen Meresankh III: room (a), east wall north of entrance; in a scene with registers of estates, bird-trapping, sowing and ploughing, birds and animals, and a scene of boatmen fighting, a large space is taken by a scene showing Hetep-heres II and Meresankh III standing on a papyrus raft pulling papyrus flowers.
- (3) LG 86: Prince Nebemakhet: outer room (a), west wall south of doorway; Nebemakhet on a papyrus raft facing to right, holding aloft a split spear; in background, typical conventionalized representation of swamp with birds, animals, &c.; on the right of this, five registers; reg. 1, men carrying and cleaning fish (at least seven men); reg. 2, desert scene, carrying live birds, crates of small animals (hedgehog and rabbit), gazelle suckling young, men carrying crates of young gazelles; reg. 3, on right, overseer and three men building a papyrus raft with other men bringing from the swamp bundles of papyrus stalks; reg. 4, cattle going to right, apparently wading in water; man on a raft and another wading in water; reg. 5, procession of estates facing to left, alternately male and female, Chephren names.

There may have been one or two other examples on obliterated walls, but the evidence is sufficient to prove the use of the great swamp scene in several variations in the early rock-tombs of Giza. In the decorated Pyramid Temple of Weserkaf at Saqqarah (excavated by C. M. Firth) the great swamp scene is shown by the fragments in an unusually large composition executed in magnificent reliefs. The fragments show two scenes, one with bird-hunting and the other with fish-spearing. In the Pyramid Temple of Sahura (see Borchardt, *Sa-hu-rê*, II, Pls. 15, 16) again two scenes, bird-hunting and fish-spearing, can be seen on the fragments. In the temple of Neweserra (see Borchardt, *Ne-user-rê*, Pl. 38), the fragments

show the conventional representation of a swamp which must belong to one or the other of the types of scene under discussion. It seems clear, by reason of the time, that Weserkaf, or the craftsmen who composed the decoration of his temple, drew on the great scene used in the early rock-cut chapels at Giza. It may even have been that he used, for the drawing of the designs and the carving of the reliefs, craftsmen trained at Giza under Mycerinus and Shepseskaf. It may be taken as certain that the use of the great swamp scene was firmly established as part of the chapel decoration by the beautiful examples made for the Weserkaf temple. Thereafter it was used by Sahura, Neweserra, and probably most of the kings. With these royal examples the frequent occurrence in the large chapels of Dyns. V and VI is seen to be a natural development.

For examples at Giza in Dyn. V see the list of the five forms of the great swamp scene given above.

(b) *Minor swamp scenes.*

The minor or small swamp scenes occur attached to the great swamp as mentioned above, but for the present purpose consideration is directed to those smaller scenes which occur as parts of other types of scenes. The chief forms of the small swamp scenes are (i) bird-trapping, (ii) seining fish, (iii) pulling papyrus, (iv) papyrus rafts coming out of the swamp. It is to be noted that these scenes occur as registers in the presentation and offering scenes of the early rock-cut chapels and the fish-seining scene appears on the east wall of one Dyn. IV L-shaped chapel (G 7650). The same scenes appear in the chapels of Dyns. V–VI in the same way as elements in the presentation scene, the offering scene, or attached to agricultural scenes.

i. *The bird-netting scene.* The chief element in the bird-netting scene is the springing of the hexagonal netted trap. The trap is spread on the ground or over water in the swamp. Three or four men retire to the length of a long rope attached to the trap. Closer to the scene, usually screened by papyrus or other plants, a man watches the birds alighting on the net and at the chosen moment signals to the others to spring the trap. Subsidiary to this chief element occur pictures of men taking birds from a sprung trap, placing them in crates or carrying them away, or carrying crates of birds singly or in pairs on a shoulder yoke, and other similar scenes. As usual, no two scenes are exactly alike, but all are included here under the term 'bird-netting scene'. The scene is found in the cruciform chapels of Medum (Neferma'at, Atet, Rahotep). In the rock-cut tombs the following examples occur:

- (1) LG 89: Prince Sekhemkara: room (a), east wall, presentation scene; reg. 2, five men bringing live birds and a small animal, two men taking birds out of a box, man carrying a box of birds, man carrying papyrus, a man pulling papyrus, men springing bird-trap, rest obliterated.
- (2) LG 90: Debehen: room (b), south wall (screen wall); the bird-netting is not actually shown, but in reg. 3 a man carries two boxes of birds on a shoulder yoke, another a box of birds on head and swamp flowers on shoulder.
- (3) G 7530: Queen Meresankh III: room (a), east wall, north of doorway; men springing a bird-trap with two sub-registers on right; (a) bringing papyrus stalks and weaving mats, (b) men putting birds in crate and men plucking birds.
- (4) LG 86: Prince Nebemakhet: room (a), south wall, in a large scene of N. viewing mixed registers (cf. Meresankh III) of agricultural and swamp scenes; regs. 1 and 3 show the bird-netting scene in detail; reg. 1, after three scribes, men putting birds in two boxes; sprung trap with men taking out birds; reg. 3, man carrying birds, four men pulling rope of trap, man signalling with cloth, trap with birds, man presents bird to overseer.

The bird-netting scene occurred in the temples of Sahura and Neweserra. It is found in the majority of mastaba chapels of Dyns. V–VI. The fact is to be noted, however, that after the rock-cut tombs it occurs often in the composite or mixed scenes which contain agricultural and other scenes.

ii. *Scene of men seining fish.* The swamps provided one of the chief sources of the supply of fish. One of the most productive means of obtaining fish in the swamp was the use of the great seine. In the great swamp scenes showing the owner spearing fish and hunting birds, very often the seining of fish is shown at one end of the scene. In the cruciform chapels the separate small scene of men seining occurs frequently (Neferma'at, Rahotep). In these chapels it is often, as later, associated with the bird-netting scene. In the tomb of Merytyetes (G 7650), on the east wall in front of a family group, in the lower part of the wall is a fish-seining picture, probably under a bird-netting scene. A register below the fish-seining shows eight men facing to left, the first three nearly obliterated, a man with two birds in right hand and one in left, running man partly obliterated, man running with two fish in left hand, man carrying large fish on back, and a man holding something against his breast (scribe?) and turning head back to right. The small seining scene is found in the early rock-cut tombs in the registers of presentation and in other scenes often associated with the bird-netting scene:

- (1) LG 89: Prince Sekhemkara: room (a), east wall, presentation scene; reg. 3, traces of men seining fish; in the register above is a bird-netting scene.

In the later rock-cut tombs, Ankh-ma-ra (G 7837) and Khafrankh (LG 75 = G 7948), the scene is found again in the presentation scene associated with the bird-netting scene. In the late L-shaped chapel of Per-sen (LG 20) the seining scene again occurs in a presentation scene, in association with a boating scene. In the later mastaba chapels the seining scene is a common feature of the agricultural scenes and is again usually associated with the bird-netting scene.

iii. *Scenes showing the pulling and carrying of papyrus.* The boats coming in or out of the swamps, herding cattle, bringing fish and birds and the plant products of the swamp, are depicted from the earliest chapels to the latest, usually secondary to other scenes. But in the tomb of Meresankh III appears a special small scene of boatmen fighting in boats coming forth from the swamps. This small special scene, whether it was first designed for the tomb of Meresankh III or not, was a favourite element in the later mastaba chapels.

- (1) G 7530: Queen Meresankh III: room (a), east wall, north of doorway; in reg. 5 of the great mixed swamp and agricultural scene; on the left end, four papyrus rafts being paddled to left; above is the label *pṛt m šꜣ ḥnꜣ nḥbtw in mḥtyw*, &c.; the first raft bears a heap of bird-crates and other objects and a crew of four including an overseer; the third man is poling the craft, and the fourth man appears to threaten the first man of the second raft with a bundle of papyrus; the second raft appears to be empty and bears a crew of two or three figures; first man is paddling; the last man on the stern is punting; the third raft shows no cargo, but bears a crew of three men; the fourth boat has a crew of four; the crews of the third and fourth boat are engaged in a struggle for precedence; the second man of the fourth boat grasps the stern of the third boat while the first man is engaged in a struggle with the whole crew of the third boat; the last man of the third boat grasps the ankle of the first man of the fourth boat, who is being attacked by the first and second men of the third boat with their paddles; the third man of the fourth boat squats holding his own paddle and that of the second man; the fourth man in the fourth boat is poling that boat forwards.

The scene of the boats coming forth from the swamp with crews struggling to pass each other was elaborated in Dyn. V and became one of the favourite elements of the large composite scenes of the mastabas of Dyns. V-VI. See at Giza the chapels of Iy-mery (G 6020), Sekhemka (G 1029), and Senezem-ib-Yenti. At Saqqarah see Thiy, Ptah-hotep and Akhet-hotep, Hetep-her-akhet (Leyden),

Ka-m-nofret (Boston), Per-sen (MM D 45), Yeduwt. In most of these the boatmen are fighting with punting-poles.

(3) *The Agricultural Scenes*

The scenes drawn from the cultivation of the soil, ploughing, sowing and planting, harvesting, and so forth are always in small registers. They occur in the early cruciform chapels. In the rock-cut tombs at Giza the use of these agricultural pictures becomes frequent in the presentation scene and in the large composite scenes.

- (1) G 7530: Queen Meresankh III: room (a), east wall north of doorway: a great composite scene with estates, bird-netting; to the left of these two registers is the large scene of the two queens pulling papyrus; under these, men bringing large birds and cattle; in reg. 4, on the right, the four boats coming forth from the swamp, then a *hks nwt* standing facing to right leaning on staff, men with whips driving a herd of rams trampling in grain, man strewing seed, man carrying sack of seed ('tilling with sheep; sowing the seed'); room (b), east wall north of entrance: unfinished scene; three registers; reg. 1, two pairs of men each carrying sack of grain on pole; reg. 2, stack of grain; three figures winnowing (?); reg. 3, stack of grain and man filling a container with grain; two other obscure figures; all figures face to left.
- (2) LG 89: Prince Sekhemkara: room (a), south wall, west of doorway; a nearly completely obliterated scene; reg. 1, boat-building; reg. 2, flax (?) harvest; reg. 3, threshing scenes; rest obliterated; apparently the scene continued east of doorway.
- (3) LG 86: Prince Nebemakhet: room (a), south wall; Nebemakhet and Shepsiset-kauw standing facing to right; in front, five registers; reg. 1, scribes and bird-netting scene; reg. 2, partially obliterated agricultural scenes, rams trampling in seed, winnowing (?), two pairs of oxen ploughing; reg. 3, bird-netting; reg. 4, boating scene; reg. 5, obliterated, apparently men bringing in animals.

These scenes are badly mutilated except in Meresankh III, and there the harvest scene is unfinished. The evidence is, however, sufficient to prove the use of agricultural scenes in the rock-cut tombs. In the mastaba chapels of Dyns. V-VI the agricultural scenes were developed so true to life that they give some of the most engaging scenes of country life in Ancient Egypt.

d. The Expansion of the Offering Scene in the Early Rock-cut Chapels: the Funeral Scene

As has been shown above in the description of the offering scenes in the early rock-cut chapels the expansion consisted not only in a considerable enlargement of the picture list of offerings, either in a pavilion or not as part of a pavilion scene, but also of small scenes from life included in the registers of the picture list or attached to the scene outside the picture list. These additions generally consist of (a) small cooking scenes, (b) the handling of jars of wine or beer (including wine-press scene, &c.), (c) funerary priests performing ceremonies and bringing the funerary meal, (d) musicians and dancers. These small scenes are so varied and become so frequent in use in the large chapels of Dyns. V-VI that I reserve the detailed discussion of them for another volume. There is, however, one remarkable scene in the tomb of Debehen included in a great offering scene which has great importance for certain scenes found in the later chapels because it represents the ceremonies carried out at the burial. In the rock-cut tomb of Debehen made in the reign of Mycerinus, on the southern wall of room (b), covering both the masonry screen wall and the rock surface west of it is a great scene which begins on the right with a picture of the tomb itself. The rock-scarp is shown with a doorway or *ka-door* in its face and an inclined ramp ascending from the left from the ground-level of the doorway to the top of the cliff. This

ramp I would identify with the ceremonial ramp found attached to several mastabas for the ascent of the burial procession to the top of the mastaba, although in the case of Debehen the burial-shaft was in the floor of the rock-cut chapel. On the cliff above, facing the ramp, is a statue in a kiosk contained in another kiosk and standing on a large wooden sledge. The figure faces to the left towards the inclined plane ascending the cliff. On the platform in front of the figure is a small table of offerings, which is approached by a procession of seven men, two on the platform above, four walking up the ramp, and one on the ground at the lower end of the ramp: (a) hands outstretched (broken away), (b) holds live goose with both hands, (c) goose in each hand, (d) haunch of beef and a jar (?), (e) haunch of beef and live goose, (f) cake in each hand, (g) ewer and basin (?). On the ground along the ramp and the face of the cliff is a long row of offerings (picture list), bread and cakes, bread in basins, basin on tall stand, and on the right of the *ka*-door ointment-jars, milk-pots, and wine-jars. Above the men on the ramp on the left, the wall shows two registers. The upper register pictures a rectangular table bearing ewer and basin and small circular table with cakes, and a row of five priests, (a) kneeling with both hands outstretched palms down, (b) kneeling with beer-jar in each hand, (c) with cake in left and *nw* pot in right, (d) kneeling with cup in the left hand and right hand open palm down, (e) standing figure in the *hry wdb* attitude, holding a *khh* jar in right hand. Over the fourth priest and in front of fifth is written *wdn iht: snmt sh in wt*. Under these priests is a short register showing a pair of bulls and a third bull behind them. Above the chief scene are two registers not given by Lepsius. These show statues being dragged to the tomb and will be published soon by Professor Selim Bey Hassan.

Under this chief scene is a register showing from right to left: (a) two men facing left, each with staff in right hand and left hand on right shoulder, (b) three women clapping hands, 'singing by the harem (?)', (c) rectangular table bearing cakes with other cakes below, and ewer and basin above, (d) four women facing right and dancing (illegible inscription). On the screen wall is a great compartment list of late form, to the left of which are two priests one above the other, (a) a *hry wdb* making offerings (*wdn iht*), (b) a kneeling figure with *nw* pot in each hand, 'glorification by the *wt*'. Under this are two registers, the lower of which crosses the whole wall, passing under the dancing scene mentioned above. The upper part of the two registers shows, from right to left, (a) a standing man facing right, *wt*, with staff in left hand and right hand on left shoulder, (b) a picture list of offerings in five lines, (c) scaffolding of poles hung with pieces of meat and fowl, with cakes on table below, (d) two slaughter scenes labelled *rhs iwsw n krs : wt m di nswt htp* ('slaughter cattle for the burial very great, with *di nswt htp* recitations'). The lowest register, which crosses the whole wall, presents from right to left, (a) bouquet (?), three jars with cone sealings (?) on ring stands, three sheaves of papyrus on three sledges, growing papyrus with flower and bud alternating, (b) man carrying two boxes of birds on pole, man carrying box of birds and sheaf of papyrus, and man carrying live goose, (c) five men bringing in four animals, long-horned cow, ibex, oryx, and hyena in arms of last man (over the bull *itt tws*).

It is clear that this whole wall presents one scene, as is shown by the inscription over the slaughter scene, 'slaughter of cattle for the burial', and the prominence given to the *wt* and the *hry wdb* on the screen wall, as well as in the chief scene. The *hm-k* priests are not specifically labelled, but it may be inferred that the men ascending the ramp are of that order. The ceremonies represented are the bringing of the funerary meal, the dancing and the singing around the table of offerings, the reading of the compartment list by the *hry wdb*, the performance of the glorification and the *snmt sh* by the *wt*, the slaughter scenes, the presentation by the *wt* of the picture list of offerings, and the bringing of flowers, birds, and animals.

This funeral scene in the tomb of Debehen with its funerary priests of various kinds and its mention of several different funerary ceremonies combines for the first time classes of priests and forms of ceremonies

well known from groups of priests and offering formulas in the L-shaped chapels. The discussion of these classes and the ceremonies performed by them will be taken up in another place, where the development of the representation of these classes and ceremonies will be traced from the cruciform chapels to the end of Dyn. VI. In this development the most notable change was in the tombs of Dyn. VI, in which the chief functionary is the *hry-hb* priest, who is not found in the scenes in the L-shaped chapels or in Debehen.

The funeral scene in Debehen is the only one of its exact form known to me. Later, however, in late Dyn. V and Dyn. VI occur a number of examples of a very different funeral scene which may, however, have some relation to the Debehen scene. At any rate, it is based on the use of a similar idea in the decoration of the chapel. The examples at Saqqarah are in the chapels Hetep-her-akhmet, Lepsius S 31, Yeduwet, Mereruwka, Ankh-ma-hor; at Dahshur in the chapel of Sneferuw-yen-shat-f; and at Giza in the tombs of Qar and Yeduw. These late scenes usually make a feature of the transport of the coffin and other equipment on boats, and the chief funerary priest is the *hry-hb*. The detailed description of these will be taken up in a later chapter.

4. THE DECORATION OF THE ENLARGED CHAPELS OF DYN. V-VI

The decoration of the early L-shaped chapels at Giza took a definite form in which the offering-room was decorated with scenes concerned with the provision of food, drink, clothing, and funeral equipment. The most complete of these early chapels is that of Prince Khufuw-khaf (G 7140), in which apart from the decoration of the niche in conformity with the niches of the cruciform chapels, the west wall bears a presentation scene (estates, scribes, men bringing furniture, the funerary meal, and live birds and animals), on the east wall another presentation scene showing the owner viewing the sealed equipment, on the south wall a table scene with *wt* and other priests performing the initial rites, and on the north wall a simple family group. The door-jambs and the façade panels are also decorated similarly to the decoration of the same parts in cruciform and L-shaped chapels. Remembering that the decoration of each tomb was designed separately, the arrangement of the Khufuw-khaf chapel corresponds with that of other early L-shaped chapels. The succeeding chapels of type (3) in the nummulitic chapels of the Eastern Field follow approximately the layout of the Khufuw-khaf chapel, but six of the chapels are so similar that they may be assumed to have been made by the same groups of craftsmen. In one of the early chapels, Merytyetes (G 7650), reign of Chephren, an offering scene with a picture list is seen on the south wall associated with an extended family group.

In the L-shaped chapels of type (4) dated to Mycerinus or later the same character of the decoration is preserved and the scenes consist of table scenes, presentation scenes, and family group with the frequent inclusion of an offering scene with a picture list of offerings. The period of these chapels of type (4) extends to the end of the reign of Neferirkara.

It was the rock-cut chapels which laid the basis not only for the radical alteration of the decoration of the chapel, but also for the enlargement of the mastaba chapel. The rock-cut chapel was introduced at Giza in the reign of Mycerinus, as is shown by the inscriptions in the tomb of Debehen. The first three decorated rock-cut chapels (Debehen, Nekawra, and Sekhemkara) appear to have been made in the reign of Mycerinus and the last three (Meresankh III, Nebemakhet, and Khuwnera) in the reign of Shepseskaf. It is therefore certain that the mastaba chapels of type (4) continued to carry on the traditions of the earlier L-shaped chapels unaffected by the development of the decoration of the rock-cut chapels. A few innovations may be ascribed to the influence of the rock-cut tombs, such as the use of the boating scene, and in particular a few examples of dancers and musicians. It is also to be noted that while the earlier L-shaped chapels of type (3), whether of white or nummulitic limestone, were

decorated with well-carved reliefs, the later chapels of type (4) show the introduction of heavily sized reliefs in which the relief was partly cut in the rock and partly in the plaster. This sized technique was clearly seen in certain walls in the chapel of Meresankh III, in particular on the unfinished east wall of room (b). It seems probable that the heavily sized technique was actually invented for the rock-cut tombs to cheapen the cost of the decoration. The L-shaped chapels, the chapels of white limestone, and those of nummulitic limestone only lightly sized, are generally earlier in date than those with reliefs made with heavily sized technique. The two techniques continue to appear in the later chapels, the well-carved simple technique in chapels lined with white limestone, and the heavily sized technique in the nummulitic chapels. It is in fact the cheapness of the heavily sized technique which made practicable the decoration of the enlarged chapels used in comparatively small mastabas at Giza in Dyns. V and VI.

a. The Enlargement of the Wall Areas of Chapels

The enlargement of the wall areas of mastaba chapels was obtained by the introduction of the corridor chapels of type (5), the multiple-roomed chapel of type (7), and the still later chapels of types (10-12). These enlarged chapels came into use at Giza soon after the end of the reign of Neferirkara. The mastaba, G 4631, with chapel of type (5 a) contains shaft B in which a sealing of Weserkaf was found, but the chapel is a reconstruction of later date. In another small mastaba, G 4633, with a chapel of type (5 ax), a secondary shaft contained a sealing of Neferirkara. In a third small mastaba, G 4721, with a chapel of type (7 b), a shaft contained a sealing of Neferirkara (?). None of these three chapels was decorated, but they show clearly the enlargement of the wall areas in a time immediately after the reign of Neferirkara, and before the reign of Neueserra. In the reign of Neueserra the enlarged chapel is found fully developed, and decorated examples occur assignable to that reign and to the last half of Dyn. V.

The development of the chapel at Giza and Saqqarah does not present the same chronological series, although the series touch at several points. At Giza, the basis for the chronology of the enlargement of the chapel and its decoration is provided by the two great family complexes of Shepseskaf-ankh and Senezem-ib. In the Shepseskaf-ankh complex, the two large decorated chapels are those of Iy-mery (G 6020), dated to the reign of Neueserra, and the large chapel of his son, Ptah-nefer-bauw (G 6010), decorated about twenty years after the reign of Neueserra. The series is continued by the chapel of Senezem-ib-Yenti decorated at the end of the reign of Isesy, the chapel of his son, Senezem-ib-Mehi, decorated in the reign of Unis, the chapel of a younger son, Khnumenti, decorated in the reign of Teti, and the chapel of the grandson of Yenti, Nekhebuw, decorated near the end of the reign of Pepy I. Another large chapel, G 2385, assigned to Nekhebuw's elder brother, presents a very extensive chapel, but was found destroyed to its foundations. The other late chapels at Giza which can be dated to Dyn. V are not so extensive in wall areas as the large chapels in these two complexes, but they still present wall spaces considerably larger than those of the interior L-shaped chapels. Their decorations can be correlated with the decorations of the large chapels, not with those of the L-shaped chapels. The smallest of chapels decorated after the manner of the enlarged chapels are those of types (10) and (11). At the same time, the later decorated rock-chapels also show considerably larger wall areas than the L-shaped chapels.

b. The Decoration of the Enlarged Mastaba Chapels

Just as the enlargement of the mastaba chapels of Dyn. V may be ascribed to the influence of the rock-cut chapels, so the layout of the decoration and the expansion of the types of scenes follow clearly the example set by those same chapels. It is needless to add that the decoration of the later rock-cut chapels may be correlated to that of the rock-cut chapels and the later enlarged mastaba chapels.

The layout of the decoration of the L-shaped chapels presented certain common features in a large number of chapels, but was never identical even in two of the most closely related chapels. In the early rock-cut chapels, except for the west wall the layout varies so considerably from chapel to chapel that it is impossible to frame any approximation to a common layout. This individuality of layout was continued in the enlarged mastaba chapels and the later rock-cut chapels. Except for the niches in the west wall, every tomb has its own arrangement of scenes.

The enlarged chapels of Dyn. V also copied the peculiar composite scenes resulting from the expansion of the older presentation and offering scenes. The presentation scene is expanded to show not merely the bringing of the products of the estates of the funerary endowment, but also scenes showing the activities carried out on the estates, both the valley and the swamp estates, the agricultural scenes, and the swamp scenes. The offering scene, in particular the large pavilion scene, was expanded to include all sorts of small scenes concerned with the preparation of food and the serving of the food to the accompaniment of dancing and music. Some of the special large scenes designed for the rock-cut chapels also appear in the large mastaba chapels, such as the scenes of craftsmen at work producing the funerary equipment, the special pictures of that equipment, and the great swamp scenes with the owner of large size hunting, fishing, or pulling papyrus flowers in the swamp. A scene which perhaps occurred but was not found preserved in the early rock-cut chapels, the carrying-chair scene, is found repeatedly in the later mastaba chapels. It is to be remembered that the peculiar scenes developed in the early rock-cut chapels did not lead to the immediate introduction of such scenes in mastaba chapels. It was certainly not before the reign of Neweserra that the radical change was effected in the mastaba chapels. After the decoration of the early rock-cut chapels of Giza the next step in the development was the appearance of the characteristic scenes of those chapels in the pyramid temples of Weserkaf, Sahura, and presumably Neferirkara. The very beautiful decorations developed in these royal temples were followed by Neweserra in his temple. And it was clearly the influence of the decoration of the pyramid temples which brought the full introduction of this type of decoration for the enlarged chapels of Dyns. V and VI.

The decoration of the mastaba chapels of Dyns. V and VI will be discussed at length by Mr. W. S. Smith in another volume. Here in order to permit the realization of the intimate connexion between the decoration of the rock-cut chapels of Dyn. IV and the later chapels I content myself with giving a description of two scenes:

- (1) G 7948: Khafra-ankh: east wall; on the left, a group of chief figures, Khafra-ankh standing leaning on a staff, with his dog in front of him, and a man shading him with a rectangular sunshade on a pole; behind Khafra-ankh stands his brother; in front of chief scene, six registers; reg. 1, scribes, and five boats in boating scene; reg. 2, scribes, men feeding animals, threshing, winnowing, piles of grain; reg. 3, on the left, scribe, then chief herdsmen, five men facing to left; an overseer facing right viewing men handling boxes; then comes a small figure of Khafra-ankh with dog and sunshade looking at men reaping grain with a sickle; reg. 4, judgement scene, bird-netting; reg. 5, herd of cattle with numbers; then a fish-seining scene which extends down into reg. 6; reg. 6, herds of asses and goats.

The composite scene appears even in the corridor chapels of comparatively small mastabas of Dyn. V. I select as a typical example a scene from a small mastaba at Giza:

- (2) G 1029: Sekhemka: chapel of type (5 a), east wall; at south end of wall, owner stands with staff and wand facing out to left; son between staff and man; labelled *msj šks ʿsh bdt in iswt-f nt*

niwt-f nt pr-f dt, 'viewing the harvesting of grain by his gangs of the estates of his funerary endowment'; to the left are five registers; reg. 1, on right, three scribes facing right; seven men pulling up swamp plants; papyrus raft loaded with swamp products; then a bird-netting scene which is unfinished towards the north; reg. 2, two papyrus rafts loaded with swamp products, crews fighting with punting-poles; two men ploughing; man strewn grain seed and herd of rams trampling in the seed, driven by men with whips; reg. 3, overseer, four men pulling flax, two men binding flax in bundles; five men cutting barley with sickles, pile of sheaves, three men driving donkeys to the pile of sheaves (for loading), and finally a man piling sheaves (register unfinished); reg. 4, men bringing in animals (wild animals), oryx, ibex, gazelle; then a man carrying a fish coming from the fish-seining scene which takes the ends of regs. 4 and 5; reg. 5, man leading in a bull followed by two men with a second animal; man carrying bundle of papyrus on his back; the lower part of the fish-seining scene.

As an example both of the composite scenes and the layout of a large chapel I give here a description of the chapel of Iy-mery, G 6020, dated to the reign of Neueserra:

- (3) G 6020: Iy-mery: exterior stone chapel added to a two-niched mastaba and consisting of three rooms; an offering-room (a) built around the southern niche, a long E-W corridor (b), and an anteroom (c), all fully decorated.

Decoration of offering-room (a): on the west wall south of niche, a table scene; on the west wall north of niche and continued on the adjacent north wall, a great procession of men bringing the offerings of the funerary meal; on the south wall is an offering scene, a *sh* scene in which the father Shepseskaf-ankh is seen seated in a kiosk facing to right with six registers in front of him, three with a picture list and three with sons and funerary priests presenting the utensils of the funerary meal (includes Iy-mery holding out a lotus to his father); and sub-register containing musicians and dancers.

East wall: on the left, a family group standing facing right showing Iy-mery, his wife and children (continued on the space above the doorway), 'viewing the writing of the *ndt hr* brought as a *pri hrw* from the estates of the funerary endowment'; in front are four registers: (1) eight scribes writing, (2) tethered oryx and men bringing oryx and ibex, (3) men bringing oxen, and (4) men bringing live birds.

Decoration of room corridor (b): south wall on the right shows a great pavilion with Iy-mery on the right side in the pavilion seated in an arm-chair facing to left; dog under chair; within the pavilion, picture list as in rock-cut tombs, including meat hanging from roof; at the end of fourth register of the picture list are three small figures facing to right, man holding up clasped hands (*shd hm-kv, hrp sh*); the second and third carry table of food (second man, *shd hm kv*); to the left of the picture list are four registers, (1) two slaughter scenes, (2) two slaughter scenes, (3) cooking scenes, (4) figure dancers; a register running under the whole scene contains mainly dancers and musicians. The east half of the wall contains five registers; reg. 1, minor activities of life on the estates, cooking, mat-making, rope-making, ending with a cow lying down; reg. 2, men bring four bulls with elaborate collars (or yokes) to right; reg. 3, cows facing left being milked or suckling calves (dairy scene); reg. 5, calving scene; on the east of regs. 4 and 5, remains of a boating scene.

Room (b), north wall; again divided into two scenes; on left, Iy-mery seated facing right with staff; four registers of agricultural scenes; reg. 1, men reaping grain and making

sheaves, also scribe; reg. 2, donkeys driven up to pile of grain to be loaded, also scribe; reg. 3, loaded donkeys approaching a pile of sheaves and man throwing sheaves on the pile, also a scribe; reg. 4, two ploughing scenes; reg. 5, under whole scene, rams trampling in seed grain and men hoeing.

Behind the figure of Iy-mery over the doorway two registers of office scenes (judgement scene, scribes recording quantities of grain, &c.).

The eastern half of the same wall on the left, Iy-mery standing leaning on his staff facing to right; in front of chief figure, four registers; reg. 1, bird-netting scene; reg. 2, scribe and a fish-seining scene; reg. 3, on left, continuation of fishing scene, and on right, men building two papyrus rafts; reg. 4, four papyrus rafts coming forth from the swamp with boatmen fighting. This wall scene was continued by a small scene on the east wall over the doorway; two registers: (1) man pulling papyrus, (2) Iy-mery standing on a papyrus raft with wife and child and attendants (?); in the midst of men pulling and carrying swamp plants.

Room B, west wall: snaring birds, orchard and vintage scenes; reg. 1, two men with slings (?) and a large number of fluttering birds (scene partly obliterated); reg. 2, men picking grapes and fruit in orchard; reg. 3, men trampling grapes in vat; reg. 4, wine-press scene; reg. 5, filling and sealing jars.

Decoration of the anteroom (c): west wall, presentation scene: on left side, Shepseskaf-ankh leaning on staff facing to right; with Iy-mery, behind him, hands hanging and papyrus roll under arm; in front, four registers; reg. 1, scribe *shd hm k* with censer, scribe, men carrying herbage, three oxen and herdsman; reg. 2, tethered ox, man leading ox; reg. 3, herdsman, tethered oryx, man leading oryx; reg. 4, herdsman, three cranes; continued by two registers over doorway to (b): (1) three tethered wild animals, hyena, young gazelle (?), gazelle; (2) man squatting by ox lying down and man squatting pulling haltered ox to knees. On narrow space north of door, *int prt hrw m nkw nt pr dt m hb nb r nb dt*.

North wall: Shepseskaf-ankh in a carrying-chair, facing to left; reg. 2, four scribes with writing material and one writing, probably the list of furniture following in two sub-registers to the right; funerary equipment including bed; reg. 3, ten estates bearing offerings to right; estate names compounded with name of Cheops (two estates), one with the name of Sahura, one with the name of Neferirkara, one with the name of Shepseskaf-ankh, and three with Iy-mery.

East wall: on the left, Iy-mery standing with staff and handkerchief, son between him and staff; *ms ndt hr innt r prt hrw m . . .*; to the right are four registers: reg. 1, extending over entrance doorway, five standing and four squatting scribes; reg. 2, two men with live birds and one leading ox; reg. 3, man leading two oxen by halters and a third tethered ox; reg. 4, man bringing oryx and ibex.

Decoration of south wall: no large figure, but five registers of craftsmen; reg. 1, from right to left, two *krst*-coffins one above the other, overseer, man polishing bed, assisted by another man, two men working with tools on second bed, man with board (?); reg. 2, shrine on sledge, man sawing long board, man working on box, man working on large door-bolt, destroyed space, and two men working with tools on some object, man kneeling planing board with adze; several obscure objects; reg. 3, man using large scales assisted by

standing figure, then badly preserved group of metal-workers using blow-pipes, man pouring metal, man beating metal on block, group of four men facing each other beating metal; scene of copper-working; reg. 4, nearly destroyed, man painting seated statue; broken space, man probably making stone vessels, three leather-workers; reg. 5, seven vessels containing oils and ointments; man pouring oil, scribe writing, five men pressing oil; two men handling ointment-jars.

Doorway, north jamb: badly weathered; large ship under sail proceeding to left; chief figure standing, Shepseskaf-ankh; four figures, probably paddlers, facing left with paddles; two other figures, one of which is coiling a rope; a pilot on the prow; inscribed, *mr Imnt wrt ir hr (?) imy wrt wrt nfrt*; above, man on bank carrying an oar, second obliterated man followed by a calf.

Doorway: south jamb: similar to north jamb; sailing-ship proceeding to right (in); crew as on north; *rs tw r hr (cable) mr imnt mi nw . . . tp nfr pw ššš n nfr*.

Architrave, drum and façade not decorated.

To further elucidate the layout and character of the scenes in the chapels of Dyn. V, I give a short description of the rock-cut tomb of Yaseu:

(4) G 2196: *rh nšwt* Yaseu: rock-cut tomb:

Decoration of west wall: niche near middle of wall containing statue of Yaseu, with left foot slightly advanced and hands hanging closed; architrave uninscribed; no tablet or drum; vertical inscription with *pwt hrw* and list of festivals.

South of niche, table scene with Yaseu in traditional attitude facing to right; under table on left ideographic list; above picture list are two registers; on right, three registers, (1) man censuring, (2) holding ewer and basin, (3) partly under table, two men kneeling with *nw* pot in each hand.

North of niche: table scene, with Yaseu seated with both hands extended, facing to right; under table, ideographic list; above table and to right, late compartment list.

South wall: offering scene with Yaseu seated facing left in small kiosk; receiving lotus flower; dog under arm-chair; behind, three registers of two men each, personal attendants carrying personal equipment.

In front of chief figure, five registers: regs. 1-3 and right half of 4, elaborate picture list of food-offerings; reg. 4, second half, eight figures preparing food (dressing and cooking birds and joints of meat and making cakes); reg. 5, man holding up lotus, two men, priests, standing with uplifted hands, six men bringing table and food-offering, four carrying haunches of beef; two slaughter scenes (each of three men cutting up a bull); reg. 6, under whole scene, unfinished at both ends, dancers and musicians, men filling wine-jars.

North wall: farming and swamp scene: on left Yaseu standing leaning on staff, '*ms šk rh nšwt* Yaseu'; in front of Yaseu three registers; reg. 1, men cutting grain and stacking sheaves, followed by two sub-registers, (a) men winnowing, three calves, (b) herdsman drinking, two men making bread (?), man watering cow, and to the right, ox lying down facing left; reg. 2, two scenes of man and boy driving loaded donkey, then bull, cow, bull, man bearing calf; reg. 3, rams treading in grain, calving scene, cow suckling calf, and cow being milked.

To the right of the farming scene, a swamp scene taking whole height of wall: Yaseu

on papyrus raft hunting birds with split spear, facing to right; picture of conventional papyrus swamp as background; on right, man on bank holding out live birds; vertical inscription on right, *sš wš(d) n Ht-hr ph in hnty š Tsn*.

East wall: presentation scene: on right, Yaseu stands with staff and handkerchief, facing out to left; wife behind him; son between man and staff; vertical line, *mš sš ndt hr innt r prt hrw r nb*; in front on left, three registers of men bringing wild animals and cattle; reg. 1, two standing scribes, and two men in respectful attitudes, then four men leading in wild animals (oryx, ibex, gazelle, hyena); reg. 2, five men leading in cattle; reg. 3, six men bringing in four horned bulls.

Entrance door-jambs, east and west: man standing facing out, leaning on staff on east, but on west obscure attitude.

Architrave: man and woman seated on one chair, facing right; offering formula (*dī nswt htp*, &c.) in two horizontal lines.

c. The Types of Scenes in the Chapels of Dyns. V-VI

The separate scenes used in decorating the enlarged late chapels of Dyns. V and VI are large and diversified, but it is nevertheless possible to make a classification which will include the greater part of the scenes.

- (1) Table scene, usually some degeneration of the old table scene:
 - (a) the late compartment list, which is very common.
 - (b) men bringing the funerary meal.
 - (c) funerary priests performing the initial rites (*šmnt šh*, &c.).
 - (d) slaughter scene.
- (2) The offering scene with the great pavilion with a great picture list of offerings or with a large pavilion containing such a list:
 - (a) the picture list of offerings.
 - (b) small cooking scenes.
 - (c) the scenes of musicians and dancers.
 - (d) men bringing in the funerary meal, including usually a man offering a lotus.
 - (e) personal attendants and often pet animals.
- (3) The small offering scene with owner seated in arm-chair in *sh* kiosk:
 - (a) small picture list.
 - (b) men presenting or bringing the utensils and materials of the funerary meal, including a man offering a lotus; often includes the sons of the owner.
 - (c) dancing and music.
 - (d) slaughter scene.
 - (e) sometimes includes a feasting scene or men playing board games.
- (4) The scene of life on the estates, which includes the following scenes:
 - (a) ploughing, sowing, reaping, and various operations of the harvesting, including storing the grain.
 - (b) scenes from the swamp estates, bird-netting, seining fish, herding the cattle, and dairy scenes.
 - (c) the bringing of wild animals and birds and domestic cattle.

- (d) including more rarely a procession of estates bearing offerings.
- (e) orchard scene: sometimes connected with gardening or vintage; often includes snaring song-birds.
- (5) The great swamp scene with the owner hunting birds, spearing fish, pulling papyrus, and similar operations.
 - (a) hunting birds with a throw-stick.
 - (b) hunting birds with a split spear.
 - (c) spearing fish.
 - (d) watching his men spearing hippopotami.
 - (e) pulling papyrus flowers (usually by women).
- (6) The scene of hunting wild animals in the desert.¹
- (7) Scenes of craftsmen at work making the funerary equipment, and pictures of the equipment.
- (8) The carrying-chair scene:
 - (a) with personal attendants carrying personal equipment.
 - (b) various pet animals, dog, monkey, baboon.
- (9) The large funeral scene:
 - (a) transport of coffin by water or land.
 - (b) a construction called *ibw*.
 - (c) a construction called *wrht*.
 - (d) a picture of the tomb.
 - (e) men and women mourning.
 - (f) priests performing the initial ceremonies.

There are a number of very mixed scenes which include elements of the scenes specified above, and a great number of unusual small groups taken from life which are too numerous to be named here. There are a few scenes and certain elements of the scenes listed above which need more explicit description.

(1) *The Carrying-chair Scene*

The carrying-chair scene first appears in the chapel of Neferma'at of Medum:

- (1) Medum 16: Prince Neferma'at: on the north side of the outer recess of the offering-niche; Neferma'at seated on the arms of a carrying-chair on a platform; carried out to right waist-high by six (?) men; under the scene, two registers of estates bearing offerings in to left.

The earliest example of a carrying-chair is that found among the funerary furniture of Queen Hetepheres I, which was made for her by her son Cheops. No evidence of the representation of the carrying-chair is found until we reach the early rock-cut tombs, where it is pictured among the funerary equipment. In the tomb of Meresankh III, where the carrying-chair is pictured among the furniture, it also occurs incidentally in a boating scene:

- (2) G 7530: Queen Meresankh III: east wall south of doorway, top register with a boating scene; on the first boat, a papyrus raft, the queen is shown as chief figure seated in a carrying-chair resting on the raft.

The carrying-chair scene of Dyn. V is differentiated from the scene in Neferma'at by the fact that the chair is carried shoulder-high and the owner is properly represented sitting in the chair between the arms. The time at which this later carrying-chair scene was introduced in chapel decoration appears to

¹ The hunting scene is rarely preserved at Giza. It is suggested in Dyn. IV by a fragment from the outer chapel of Prince Min-khaf (G 7430+7440) showing a kneeling man holding the leash of a hunting dog (?). Later it appears in the chapel of Seshem-nofer (LG 53) and that of G 2097.

have been in early Dyn. V and, I surmise, in the pyramid temples of the kings of that period. The scene appears fully developed in private chapels of the reign of Neweserra and occurs with a certain frequency in the large chapels at Giza in the last half of Dyn. V and in Dyn. VI:

- (3) G 6020: Iy-mery: room (c), north wall; Shepseskaf-ankh carried in arm-chair with baldachin, borne shoulder-high by six men; dog walking underneath the chair; behind the chair an attendant bearing a staff and a bag; in front, facing Shepseskaf-ankh, stands Iy-mery, with hanging hands, followed by his four sons in respectful attitudes; under these is a row of three men facing to left, bearing (a) sandals and case, (b) fly-whisk, basin with ladle, (c) loop of cord; with man's head turned back while he steadies the carrying-chair with one hand; under the whole scene a register of scribes facing to left and below this a register of estates also facing left.
- (4) G 7837: Ankh-ma-ra: rock-cut tomb, room (a), east wall; owner seated in carrying-chair with baldachin, carried shoulder-high to right by fourteen men (seven at front and seven at back); under chair, dwarf leading a dog; in front above, in two registers, four men attendants bearing personal equipment, including a monkey; behind, above again, in two registers, four personal attendants, including a son; a sub-register shows ten men walking to right, four scribes, and six men in respectful attitudes; probably office staff and friends.
- (5) G 2370: Senezem-ib-Yenti: room (c), south wall; lower part of a carrying-chair scene with two dogs under the chair; scene incomplete; perhaps another carrying-chair scene on east wall of room (b).
- (6) G 2374: Khnumenti: reign of Tety: room (c), east wall; upper part destroyed.
- (7) G I S No. 12: Seshem-nofer (Junker): similar to Ankh-ma-ra.
- (8) G 2381: Nekhebuw: reign of Pepy I: fragment with carrying-chair.
- (9) A rock-cut tomb excavated by Selim Bey Hassan in the Great Quarry, near Queen Buwnefer: east door-jamb; owner seated in carrying-chair resting on ground facing out to left; woman seated in front of feet; personal attendants behind.
- (10) Junker's tomb of the dwarf Seneb: on the stela; small picture of owner in carrying-chair without baldachin, carried shoulder-high by two men; third man holds sunshade over owner, and fourth is a personal attendant.
- (11) G 7102: Yeduw: room (a), south wall; owner seated in carrying-chair resting on ground, facing to left; on left, reg. 1, sons engaged in wrestling and stick game; reg. 2, daughters dancing; reg. 3, three pairs of men playing two different board games; reg. 4, musicians; regs. 5-6, preparation of food and drinks; reg. 7, female estate bearing offerings to right.
- (12) G 7101: Qar: rock-cut; room (b), pillared portico; east wall; owner seated in carrying-chair, with baldachin, facing out to left, carried shoulder-high by four pairs of men in front and six pairs at back; two attendants in front facing and two behind holding hands; sub-register of men bearing personal equipment.

These examples from Giza emphasize the frequent use of the carrying-chair scene during Dyns. V and VI in the chapels of high officials and great landowners. It was used for visits of inspection of all sorts and was particularly fitted for the inspection of landed estates.

(2) *The Late Compartment List of Offerings*

The list of offerings set in compartments formed by horizontal and vertical lines begins with the 'cupboard list' in the east wall of the chapel of Hesi-ra, where the 'sealed equipment' of jars and vessels of oil and ointment is shown in rows of small cupboards each with its door open. The next form is the

old compartment list represented on the primitive niche-stones, the slab-stelae, and the early tablets of the *ka*-door. These show lists of linen, vessels of ointment, funerary equipment, and granaries containing grain, and are universally part of a table scene. The other offering lists associated with the table scene both in the tablets and in the wall scenes are the ideographic list under the table and the 'short list' over the table which often includes a few pictures of meat and trussed fowl. The late compartment list follows the old compartment list in separating the items of the list by horizontal and vertical lines, but it combines practically all the items of the other lists. The examples of the late compartment list present great variation and its development will be taken up in another place. But it may be noted that many of the examples contain in the top line the items of the 'short list' of the table scene.

The late compartment list required a good deal of wall space and appears to have been rarely used in the early L-shaped chapels. In the early rock-cut chapels where ample space was available the late compartment list is seen fully in use (Nekauwra, Sekhemkara, Debehen, Meresankh III). It is probable that the few examples in the late L-shaped chapels of type (4) are partly contemporary and partly later than the early rock-cut chapels. Only once in these chapels does an old compartment list appear, on the east wall of Seshem-nofer (G 4940) subsidiary to a large figure of owner on south wall. The others are late compartment lists:

- (1) G 5080: Seshem-nofer: west wall between two niches above table of bread.
- (2) G I S No. 3: south wall, table scene, with compartment list above on left; possibly an old compartment list; not fully described in preliminary report.
- (3) G 2150: Kanofer: east wall, subsidiary to scene on south wall (seated at table of mixed offerings).
- (4) G 2041: Sennuwka = Keku: west wall above table scene; compartment list divided only by horizontal lines.
- (5) G 4970: Nefer-nesuwt: south wall, table scene; above table of food-offerings.
- (6) G 2155: Kaninesuwt (Junker): south wall, table scene; above, to left, compartment list.
- (7) G 5340: Ka-seza (Junker): son of Kanofer of G 2150; south wall, table scene; horizontal line above compartment list, *di nswt htp Inpw htp ir n-f dbht-htp r nb imy r wpwt K3-sd3*.

It seems clear that the chapels in question belong to the end of Dyn. IV and the early part of Dyn. V.

When the influence of the rock-cut chapels, strengthened by the decoration of the pyramid temples of the first three kings of Dyn. V, had reached its full effect in the enlarged chapels, beginning in the reign of Neueserra, the late compartment list, as an accessory to the table scene, became practically a common occurrence. It does not occur in all table scenes, but it is very rare that a fully decorated chapel is found without at least one example of the late compartment list attached to a table scene. I refrain here from giving a list of the examples at Giza as these examples will be fully described in the discussion of the development of the compartment list.

(3) *The Scenes of Funerary Priests performing Ceremonies*

In the older chapels of types (3) and (4), groups of priests are represented performing the initial rites, the 'glorification', the opening of the mouth, and the bringing of the first funerary meal. These ceremonies are also represented in the late chapels of type (4), where they are combined under the designation of *snmt sh*. The classes of priests represented are (a) the *wt*, (b) the *wdptw hnt wr*, (c) the *hry wdb*, and probably (d) the *hm-k3*. In other scenes which picture the presentation of offerings, the chief functionary is the *hm-k3* and often long lines of offering-bearers are shown who are also *hmw-k3* and their assistants.

Near the end of Dyn. V the same class of ceremonies began to be represented in a notably different

manner which characterized the table scenes of Dyn. VI. The three chief elements of these new scenes are (1) the prominence of the *hry-hb*, (2) the introduction of the stone-washing ceremony, and (3) the introduction of a figure performing the *int rd* ('wiping out the footsteps'). The ceremonies are associated as before with the table scene, and since all the small scenes vary from each other, I give a description of each.

- (1) G 5470: LG 32: Rawer (Junker): dated by sealing to reign of Isesy; chapel of type (3 b); west wall south of niche, table scene with picture list above in four registers; to the right of scene, four registers of priests facing to left: (1 a) destroyed, perhaps *hry-hb*, (2) man holding out live bird, (3 a) kneeling man, (3 b) standing man with bell censer, (3 c) standing man with two strips of cloth (towels?), (4 a) man performing the *int rd*, two men kneeling over offering-stone (?), and a man pouring water.
- (2) G 2370: Senezem-ib-Yenti: chapel type (7 c); room (a), south wall; table scene; to left of table partially destroyed rows of men, (a) erased figure performing *wdn iht*, (b) *hry-hb* reading (*šdt šš, šht in hry-hb*), (c) *int rd*, (d) beyond a break, man kneeling over stone, (e) man pouring water, and (f) standing man with censer; end of the reign of Isesy.
- (3) G 7101: Qar: reign of Pepy I: rock-cut; court (d), north wall, built of white limestone; at the top a table scene with later compartment list, to the right of which over the entrance is a row of priests, seven figures: (a) kneeling with hands touching small rectangular table (*wih iht in wt*), (b) standing with right arm outstretched and left hanging holding papyrus roll, wearing sash (*wdn iht in hry-hb*), (c) standing, wearing sash, holding sheet of papyrus with both hands (*šht in hry-hb*), (d) man kneeling, washing slab, (e) standing, pouring water over hands of (d) (*rdit mw*), (f) standing holding bowl of incense in right hand and long spoon in left (*rdit sntr*), (g) man facing backwards performing *int rd* with papyrus roll in left hand (*hry-hb*); under the table scene is funeral scene of late form.
- (4) G 7101: see above; court (d), west wall at south end, built of white limestone; table scene on the right facing left, two registers: reg. 1, seven men, (a) standing with hands extended with three middle fingers closed and thumb and little finger projecting (like making 'horns' against the evil eye) for applying ointment (*wrh*), (b) standing holding rectangular table with three jars (over the jars, *mrht*), (c) standing with censer and spoon (*rdit sntr*), (d) man kneeling on both knees holding basin in left hand and dropping pellet (of natron) with right hand while (e) standing behind pours water from a jar into the basin (*kbhw t 2*), (f) standing holding out strip of linen (towel) (*wnhw*), (g) smaller figure kneeling holding out haunch of beef, and behind him a small rectangular table bearing jar, bread, and cake (?); reg. 2, seven figures, (a) kneeling on both knees washing a stone, holding a jar upside down with right hand (*st imy r; hm-k Nhtl*), (b) man kneeling holding out a basin over a table of beer and cakes (*pri hrw m dbht-htp*), (c-e) three men kneeling on one knee with right hand closed on breast and left hand uplifted closed behind head (*šht r; nb in wt r; nb*), (f-g) standing figure reading both *hry-hb*; the top register represents the ceremonies of purification by water, ointment, and incense while the lower register is mainly concerned with the 'glorification by the *wt* and the *hry-hb*'.

In two other table scenes in the tomb of Qar, twice again the figures in the scene No. 3 above are repeated beside a late compartment list, here marked as Nos. 5 and 6.

- (7) G 4561: Ka-m-anekh (Junker): alcove south wall; table scene with owner facing out to left with late compartment list above and along the top of the wall above the table and eastwards; four registers: reg. 1, beside the compartment list, two figures, (a) facing right reading from a sheet

of papyrus, . . . *in hry-hb*, (b) facing left, right hand on left shoulder and bag (?) in hanging left hand; reg. 2, six figures, (a) man performing *int rd*, (b) kneeling, washing (?) a stone, (c) kneeling, holding a basin on the ground while (d) pours water into the basin, (e) kneeling, placing his hands on the ground before him (*ph iht*, determined by bread, beer, cakes), (f) man standing censuring (*sntr*); reg. 3, five men bringing in offerings of food and drink; reg. 4, under whole scene, two slaughter scenes.

In these scenes the chief functionary is the *hry-hb*, as shown by his standing position, his relative size, and the reading of the prescribed texts. In the examples given above the *hry-hb* stands reading a papyrus in all but No. 1, where he probably stood in the obliterated top register. His action is written down in three cases, in No. 3, where the second figure has the inscription *wdn iht* and the third *shht in hry-hb*, and in No. 2, where there is the inscription, *šdt šš, šsh in hry-hb*. Curiously enough, in No. 3 the *hry-hb* is performing the *int rd* at the end of the row. The functions of the *hry-hb* as here illustrated include the 'glorification' and the making of offerings. He appears to have been in fact a director of funerary ceremonies. The title of *hry-hb* is held by important persons from the beginning of Dyn. IV, for example by Prince Ka-wab, son of Cheops. In the rock-cut tomb of Meresankh III another funerary priest is marked out as a leader of funerary ceremonies by the title of *hrp sh* (cf. also G 6020, room b, south wall). There on the south wall of room b, to the left of a table scene with a late compartment list, appear two registers of priests. In the upper register are two men kneeling on one knee, (a) with both hands extended, open, palm up (*snmt sh in wt*), (b) with *nw* pot in each hand (not labelled). In the lower register are three standing figures: (a) man holding out a live goose with both hands (*hrp sh, hm-k Irī* (?)), (b) with goose in arms, and (c) with haunch of beef. These are obviously *hmw-k* bringing food, and the scene has no relation to the pictures of the *hry-hb* in the special scenes listed above.

It may be remarked that the *hry-hb* is represented as the chief functionary in the funeral scenes of the same periods as the scenes under discussion and is there associated with the *wt* and the *drty* (mourning women). In our scenes the *wt* also appears. In No. 3 the first figure kneeling on both knees before a table of offerings is performing the *wdn iht*, while behind him one *hry-hb* standing performs the same ceremony and another *hry-hb* performs the *shht* formerly performed by the *wt*. In scene No. 4 three figures are shown of the *wt* kneeling on one knee with right hand closed on breast and left hand uplifted clenched behind head, and labelled *shht r nb in wt r nb*. Behind them are two *hry-hb* priests reading.

The second distinctive feature of these late scenes of funerary ceremonies, the washing scene, takes various forms. In one case, No. 3, a kneeling man is pouring the water with one hand and washing a stone with the other. In another, a man standing behind is pouring water over the stone. In other cases the stone appears to be replaced by a basin and the kneeling man appears to be washing the basin or dissolving a pellet of natron (?) in the water in the basin. In any case the scenes, particularly No. 4 above, show all the types of purification, by incense, water, oils, and ointments, as well as 'glorification' and the bringing of offerings.

The performance of the *int rd* (the 'wiping out of the footsteps'), which was probably the final act in the ceremonies performed in the chapel, was obviously regarded as of unusual importance. In No. 3, above, it was performed by the *hry-hb*. It is possible that in the older ceremonies, where it is not represented, the act was carried out by the director of ceremonies. In the time when the act was pictured in the scenes of priests performing the funerary rites it was certainly not left to the meanest of the servants of the *k* and may have been regularly carried out by the *hry-hb*.

5. THE DEVELOPMENT OF THE TRADITIONAL KA-DOOR OF PLAIN COMPOUND FORM AT GIZA DURING DYN. IV-VI

The development of the decoration of the *ka*-door or offering-niche has been treated in a previous section. Here the development of the *ka*-door itself is to be outlined down to the type of *ka*-door which I call 'the false-door stela'.

In *Tomb Development*, the use of the palace-façade panelling and the development of the interior cruciform chapels have been explained. There, two forms of the *ka*-door have been differentiated, the great *ka*-door used as the chief element in the palace-façade panelling and the plain compound *ka*-door of traditional form. The great *ka*-door of the palace-façade panelling developed through 'modified cruciform chapel of palace-façade type' to the elaborate stela named by Borchardt 'die Prunkscheintür' of the Old Kingdom. At Giza, the palace-façade niche of the 'Prunkscheintür' form appears in a few early chapels of type (3 b). A more elaborate panelling is found in a number of other chapels, particularly between the two niches of traditional form in chapels of type (4). The examples of the use of panelling in Giza mastabas will be handled in the following section. Here the discussion concerns only the traditional *ka*-door of plain compound form.

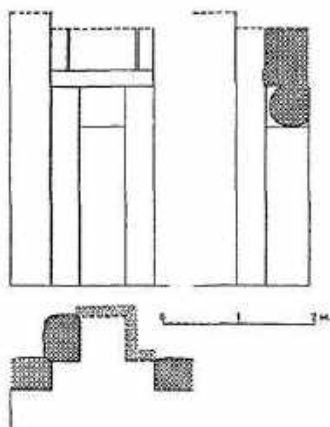


Fig. 194. G 7140

The *ka*-door of traditional form presents a representation of a doorway set in an embrasure similar to the entrance doorway of the interior chapel of L-shaped type, but with the introduction of a tablet over the doorway. As stated elsewhere, the *ka*-door of traditional form presents two recesses, an outer recess corresponding to the embrasure in which the doorway opens, and an inner recess which represents the actual doorway opening in the embrasure and closed with a wooden door. The parts of this offering-niche are the architrave over the outer recess, the sides of the outer recess, and the actual *ka*-door forming the back of the outer recess. This *ka*-door has a tablet, a cross-bar which takes the full width of the back of the outer recess, a drum over the inner recess, the surfaces of the inner recess below the drum, and the surfaces of the outer recess below the cross-bar. The early *ka*-doors have a deep form derived from the form of the compound niches in the cruciform chapel, although generally less deep and wide than the stone-lined niches. The offering-niches at Giza in the early chapels of types (2) and (3) (see Fig. 194) are nevertheless of such large proportions that they provide sufficient surface for a decoration similar to that of the older niches of the cruciform chapels. The chapels of type (3) (see Fig. 195) of the twin-mastabas of the Eastern Field have a very deep and wide inner niche obviously designed for these large tombs made for the favourite children of Cheops.

The development of the *ka*-door from the deep compound niche of the early mastabas depended on the manner of constructing the *ka*-door itself. The early *ka*-door in the cruciform chapels and in the stone chapels at Giza was built of brick-work or of masonry. The surfaces of the built stone *ka*-door prevailed in the early chapels of types (2) and (3), but the subsidiary northern niche in the face of mastabas cased with sloping white masonry was usually cut in the casing as far as it is now preserved (see G 2130, Fig. 196). The built *ka*-door also prevailed in the chapels of type (4) (see G 4940, Fig. 197), down to the reign of Neferirkara. In some of the later chapels of type (4) the *ka*-door, usually more shallow, was carved in a monolith set in a recess in the masonry (see G 1027, Fig. 198). Although the built *ka*-door was generally replaced by the monolithic *ka*-door after Neferirkara, it still occurred in isolated examples, some quite large (G 6020) and some small (G 1025).

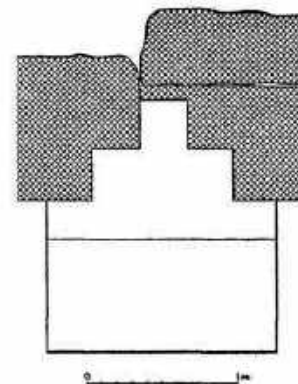
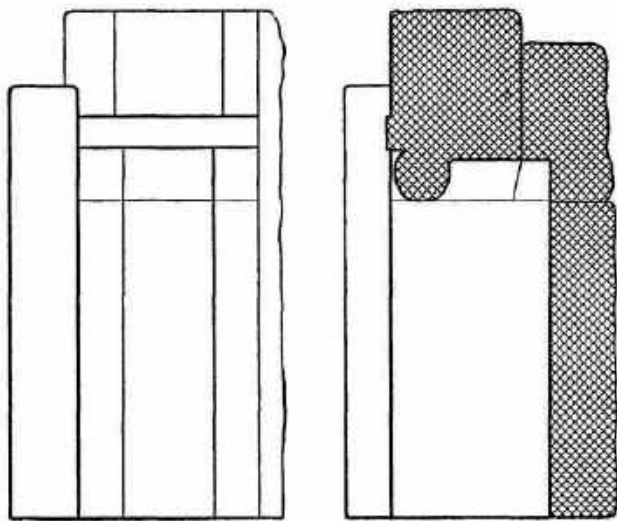


Fig. 196. G 2130

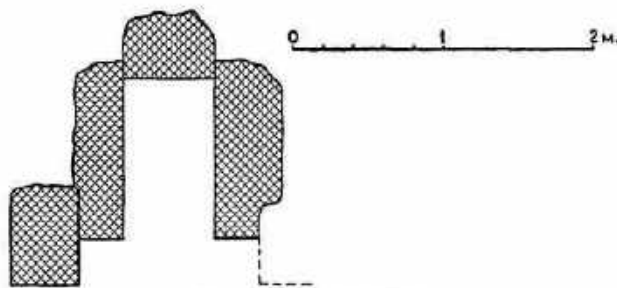


Fig. 195. G 7220

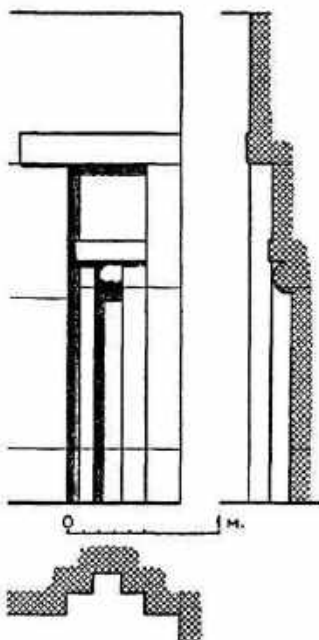


Fig. 197. G 4940.
Northern False
Door in Chapel

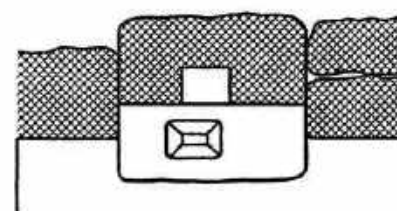
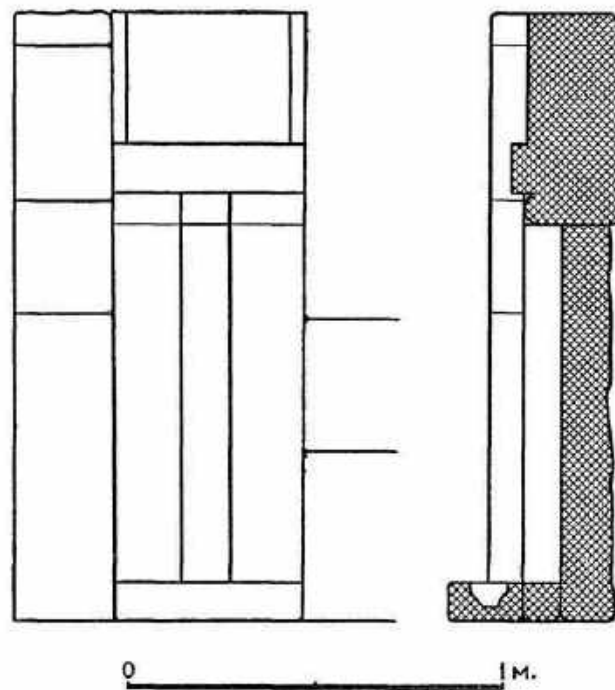


Fig. 198. G 1027

The greatest of the early *ka*-doors, those in the four northern twin-mastabas of the Eastern Field, were constructed of large upright slabs of white limestone roofed and built of horizontal slabs above the inner niche. The chapels of type (3), begun in the massive additions to the old cores in Cem. G 1200, were also being constructed of upright slabs probably intended to be finished above with horizontal courses. In G 1201 the actual *ka*-door, carved in a monolith, was set back in a recess flanked by two other monoliths (see Fig. 199). In G 1225, south niche, the same effect was obtained by carving the actual *ka*-door in a monolith and flanking it by two other monoliths set against the face of the first

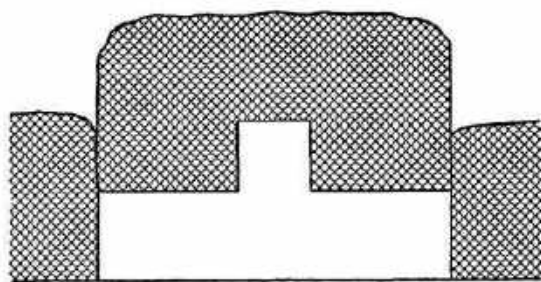


Fig. 199. G 1201

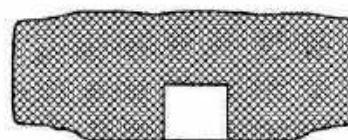


Fig. 200. G 1225 S

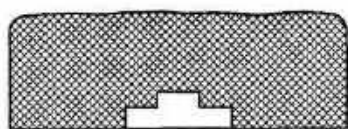


Fig. 201. G 1225 N

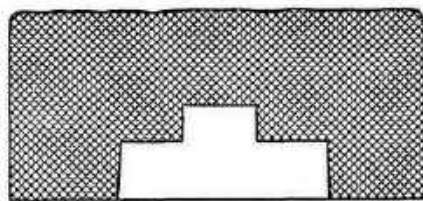


Fig. 202. G 2120

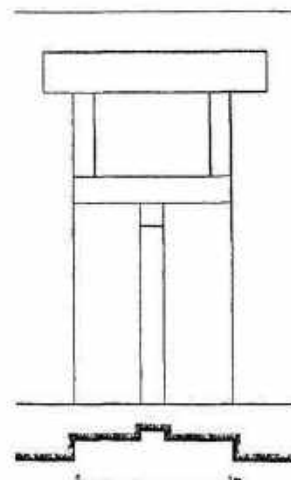


Fig. 203. G 7530

monolith (see Fig. 200). In G 1225, north niche (see Fig. 201), the whole *ka*-door was cut in a single monolith. Another example occurred in G 2120 (see Fig. 202), in which the white casing had been begun and one monolith containing a *ka*-door was found in place. The *ka*-door in these monoliths was of lesser size and with less deep recesses than the old built *ka*-doors. The obvious effect of carving the *ka*-door in a single stone even at this early period was towards a more shallow and less well-marked form, due to the limited thickness of the monolith.

The built *ka*-door of deep compound form held sway in the mastaba chapels of the reign of Chephren and Mycerinus. Early in the reign of Mycerinus the rock-cut chapels were begun for members of the family of Chephren in the old Cheops-Chephren Quarry. In these the *ka*-door was either cut in the nummulitic rock or in a monolith set in a recess in this rock. Unfortunately none of the monoliths has been preserved. The rock-cut *ka*-doors present a variety of forms, some quite deep and well formed, and others of varying degrees of shallowness. In the rock-cut chapel of Queen Meresankh III (G 7530) (see Fig. 203) a *ka*-door of unusually shallow form was cut in the west wall of room (a), at the southern end. It may be noted that the natural tendency in cutting rock-cut *ka*-doors was towards lessening the

labour involved by decreasing the depth of the recess. It may be doubted whether this fact had any permanent influence on the growing shallowness of the *ka*-door in mastaba chapels.

It was in fact the limitations of the monolithic type of *ka*-door which determined the development of the ordinary *ka*-door in Dyns. V–VI. As early as the reign of Cheops, monolithic *ka*-doors had been used (see above, Figs. 199–203). They occur in mastabas of Dyn. IV both in chapels and in the subsidiary northern niche. The monolithic *ka*-door when it is set in a flat vertical wall or in a smooth sloping wall needs only to be set in a recess in that wall to produce a *ka*-door of traditional form. The great monolithic stela of G 4520 presented to Khufuw-anekh by Weserkaf was set in the vertical west wall of a chapel of type (4) (see Fig. 204). The inner niche of the subsidiary northern stelae of G 2110, Nofer, was

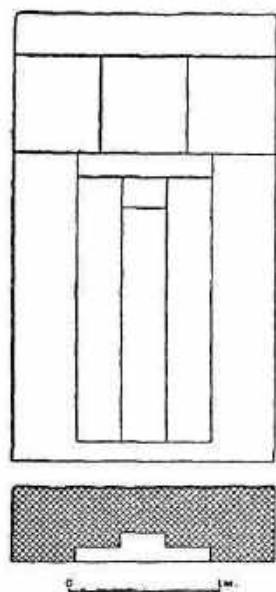


Fig. 204. G 4520

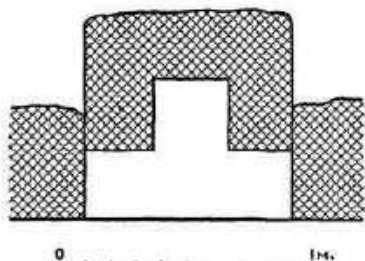


Fig. 205. G 2110

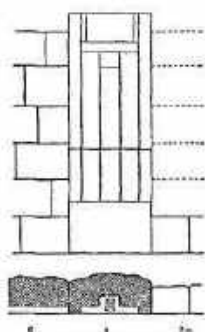


Fig. 206. G 2150

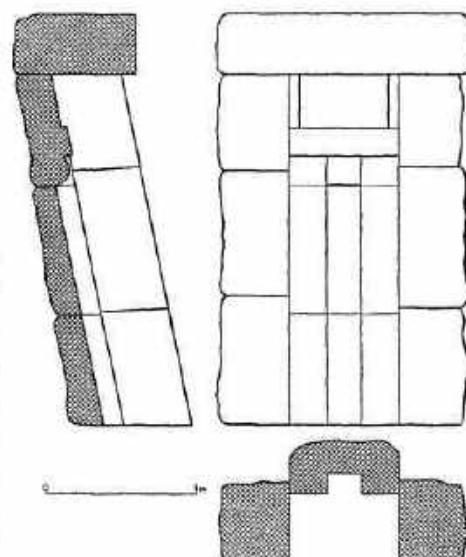


Fig. 207. G 4430

set in a recess in a sloping wall of white masonry (see Fig. 205). When, however, the monolith was set in a stepped wall the monolithic *ka*-doors had to receive side panels to represent the jambs of the ordinary niche and thus were in fact framed *ka*-doors, surmounted by an architrave (see G 2150, Fig. 206). In G 4840 reported by Junker, *Giza*, I, p. 249, a beautiful decorated monolithic stela was set in front of the stepped core as the northern subsidiary niche, and this stela also had the side panels of a framed *ka*-door. In G 4430, dated by a sealing to the reign of Chephren, a framed stela constructed of large blocks was inserted in the old stepped wall of the core (Fig. 207). Thus the framed *ka*-door came into existence as a result of the setting of the traditional *ka*-door in a stepped wall.

As said above, the *ka*-doors in chapels of type (4) show a tendency towards a growing shallowness, particularly in monolithic forms. In Dyn. V (after Neferirkara), the traditional *ka*-door, now generally of monolithic form, was usually shallow (see G 1151, Fig. 208). It was in this period, when the majority of mastabas at Giza were of medium or small size, that the monolithic framed *ka*-door became common in interior chapels of type (5) and in the façade of the mastaba (chapels types (8) and (9)). An example of a late chapel of type (4 b) was provided with a monolithic framed *ka*-door as its chief niche (see G 5280, Peh-n-ptah, son of Seshem-nofer (G 4940, Fig. 209). In another chapel of type (4) built of c.b., a monolithic *ka*-door was set in a framed recess in the west wall (G 1453). This frame was composed of a low architrave (three stones) and two side pieces (several stones each). The stone frame is a natural method of strengthening a c.b. recess, and in a c.b. chapel of type (5) dated by a sealing to Weserkaf another monolithic stela (Nensezerka) was set in a recess framed by two upright side pieces and a low

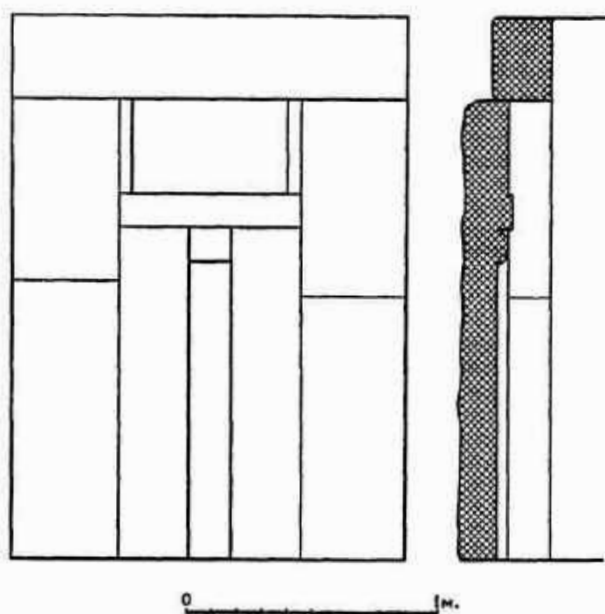


Fig. 208. G 1151

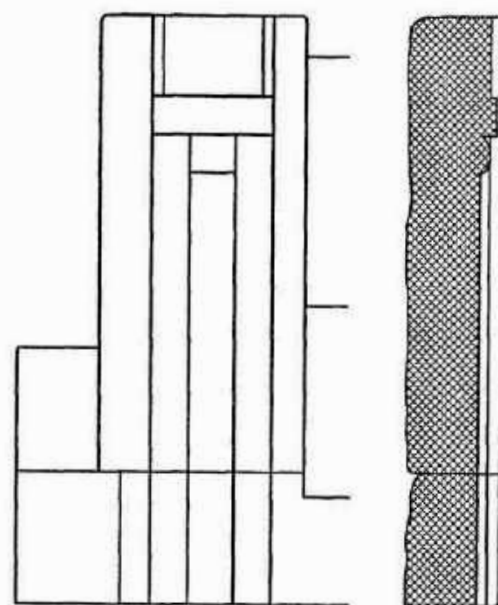


Fig. 209. G 5280

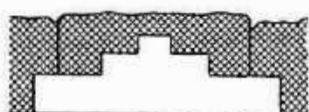
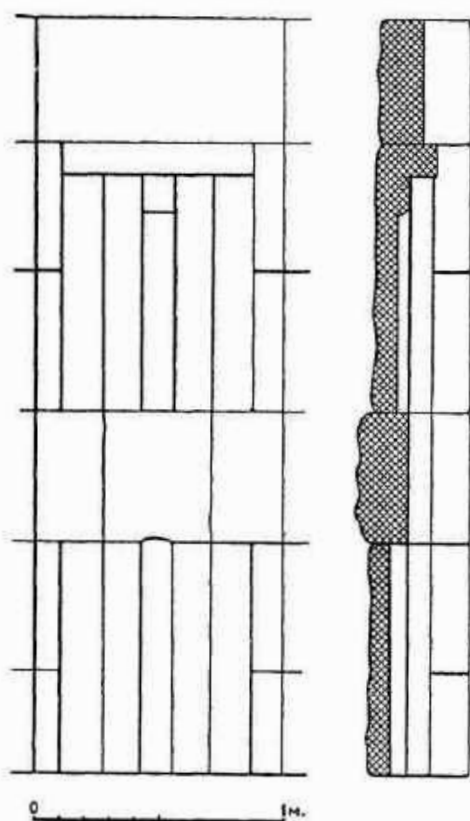


Fig. 210. G 4611 N

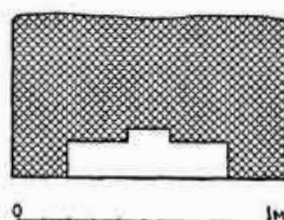
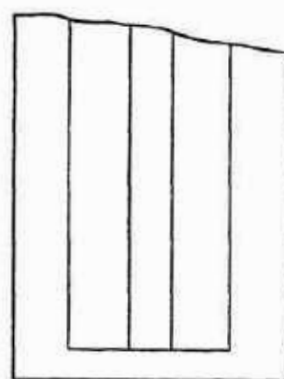


Fig. 211. G 4611 S

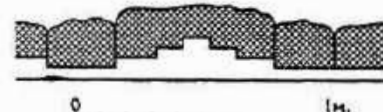
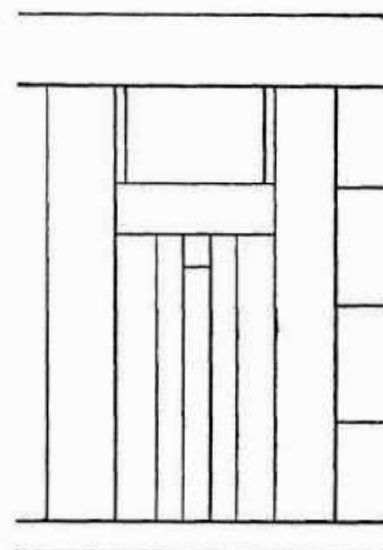


Fig. 212. G 1171

architrave. These framed c.b. recesses are technical devices to strengthen the recess of a *ka*-door and probably had no direct effect on the use of the monolithic framed *ka*-door. In the second half of Dyn. V and in Dyn. VI the monolithic framed *ka*-door became increasingly common. Examples occurred in chapels of type (5) (see G 4611, north niche, Fig. 210, and south niche, Fig. 211; see also G 1171, Fig. 212, south niche), in chapels of type (8) (see G 1309, south niche), and in open-air chapels of type (9) (see G 2352, Fig. 213). The framed *ka*-door surmounted by an architrave was the ordinary form used in the late chapels of these types. It is to be noted that the monolithic framed *ka*-door occurs in two forms: (a) with single vertical panel on each side (see Fig. 209), and (b) with two vertical panels on each side (see Fig. 212). In the exterior chapels of types (8) and (9) the stela was set in the façade of the mastaba and as these mastabas were poorly constructed of z- or u-masonry, the use of the monolithic framed *ka*-door was the most convenient manner of constructing the *ka*-door.

The old deep *ka*-door of traditional form presents in addition to architrave, tablet, cross-bar, and drum over the inner niche three vertical panels facing out and four thicknesses (sides of the inner and the outer recesses), all of which were decorated or intended to be decorated. As the traditional *ka*-door grew shallow, the sides or thicknesses of the recesses became so narrow that they ceased to be decorated. Thus the decorated panels were reduced to three, the back of the inner recess and the two backs of the outer recess, of which the decoration of the middle panel was gradually omitted. The framed *ka*-door of form (a) added two more vertical panels, the sides of the frame, making five vertical panels. The framed *ka*-door of form (b) added two more side panels to the *ka*-door, making a total of seven vertical panels. The horizontal parts remained as in all *ka*-doors, the architrave, the tablet, the cross-bar, and the drum. Of the vertical panels of the framed *ka*-door, four in form (a) and six in form (b) were usually decorated with vertical inscriptions (titles and name or offering formula with titles and name) ending above the heads of small standing figures facing in. The only parts usually left undecorated were the middle panel and the drum. Of course *ka*-doors of all types occurred which had never been decorated or had the decoration only partly executed.

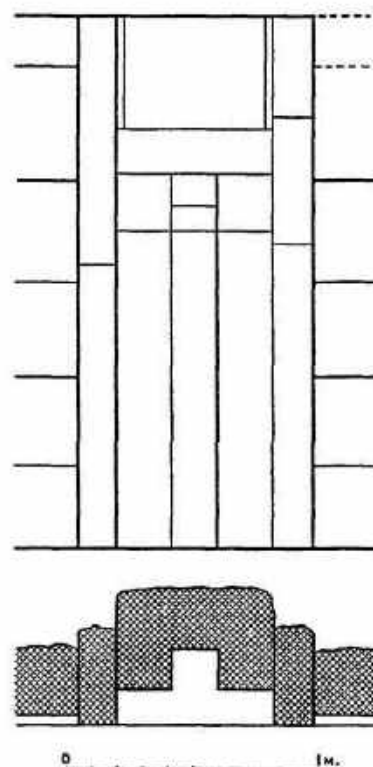


Fig. 213. G 2352

The development as outlined above shows a continuous degeneration of the traditional *ka*-door to the shallow framed *ka*-door. At Giza the degenerate forms appear in medium and small mastabas of Dyns. V–VI. The large mastabas of the same period, in particular those with chapels of type (7), present a very elaborate monolithic *ka*-door, called the ‘false-door stela’. This monolithic stela represents the outer ceremonial entrance to a tomb with hollow cornice (vividly painted in the tomb of Yeduw, G 7102) surmounting a frame formed by a rounded moulding (*Rundstab*) consisting of two side mouldings and a horizontal moulding across the top (decorated with the usual moulding decoration). Inside the moulding is represented a *ka*-door of one of the two framed types, usually very shallow. Thus the false-door stela presents two variations: (a) with a simple framed door of five vertical panels, and (b) a double framed door with seven vertical panels (two extra side panels). The horizontal parts are the same in both, the architrave (reduced to a low horizontal band), the tablet, the cross-bar, and the drum. The middle panel reached to the drum, and the two panels, one on each side of the middle panel, reached to the cross-bar. These three represent the panels of the traditional *ka*-door. Beyond this the panels

reached to the architrave and represent the panels of the frame. In form (a) the frame panels are two, one on each side, and in the form (b) the frame panels are 4, two on each side separated by a difference in the projection of their surfaces. For form (a) see G 7102, Fig. 214, and for form (b) see G 2370, Fig. 215. Except in rare cases, the middle panel (back of the inner recess) is not decorated while the other vertical panels, four or six in number, are decorated with vertical inscriptions (titles and name or an offering

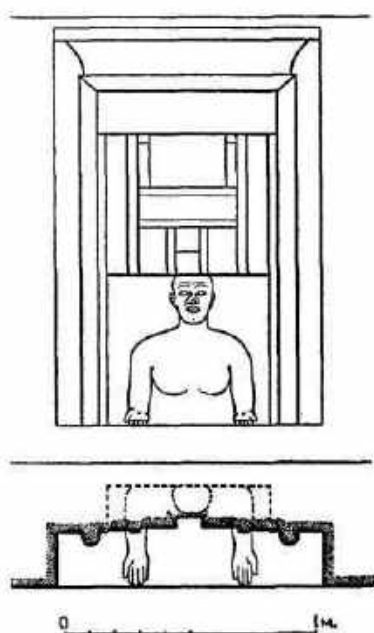


Fig. 214. G 7102

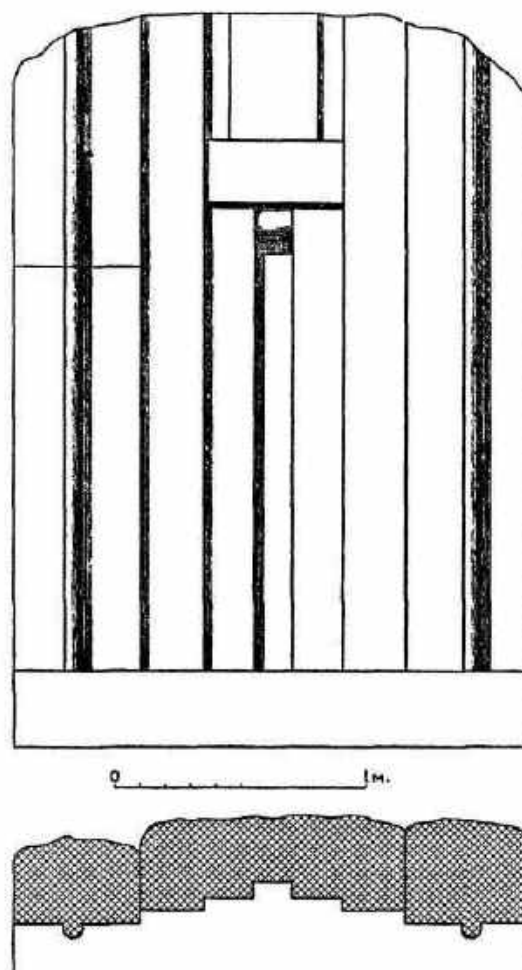


Fig. 215. G 2370

formula) with a small standing figure of the owner at the bottom facing in on both sides of the middle panel.

The false-door stela with hollow cornice and round moulding represented the ceremonial entrance to the tomb, here used as a *ka*-door. The same features are presented by the ceremonial entrance to the temple of certain pyramids as early as the reign of Neweserra (see Borchardt, *Ne-user-ré*, pp. 63, 64). The introduction of this form as a *ka*-door probably took place in the pyramid temples of the kings of the early part of Dyn. V. The part of the granite stela of Neferirkara shown by Borchardt, in *Nefer-ir-ka-ré*, pp. 30-31, was certainly a framed stela of very shallow form, and I would reconstruct it with hollow cornice and round moulding, that is as a false-door stela. At Giza the full effect of the pyramid temples of these kings did not become apparent until after Neweserra. The use of the false-door stela, derived by me from these temples, appeared at Giza in the latter part of Dyn. V. It is significant that the complex of Shepseskaf-ankh (G 6010-6040), reaching to a period after Neweserra, did not contain a single example of the false-door stela. Yet the complex of Senezem-ib, extending from the reign of Isesy to Pepy II, contained only false-door stelae mostly of large size.

To sum up the development of the *ka*-door at Giza, the following points are to be noted:

- (1) The series of *ka*-doors begin in the reign of Cheops with a simple wide c.b. niche in exterior chapels of types (1 a) and (1 b), in which was exposed the stepped face of the mastaba-core of type II a and b, III i, or type IV i, in which a slab-stela corresponding to the tablet of a *ka*-door had been inset.
- (2) In the cased cores with exterior and interior stone chapels, the series of traditional *ka*-doors begins with a deep compound niche of the form and proportions derived from the earlier cruciform chapels.
- (3) In the early chapels of type (2) and (3) the deep compound *ka*-door was constructed in one of three ways: (a) built of masonry, (b) built of large upright slabs, or (c) carved in a monolith. The same type of niche continued to be used in chapels of type (4) in which the most frequent form was a monolithic *ka*-door set in a recess in a masonry wall; the monolithic *ka*-doors show an increasing shallowness accompanied by a reduction of the decorated surfaces, apparent already in chapels of the end of Dyn. IV, and early Dyn. V.
- (4) The rock-cut chapels of the reigns of Mycerinus and Shepseskaf show rock-cut *ka*-doors of the traditional form varying from the deep compound form to an extremely shallow form with no decoration of the side surfaces (thickness) of either the outer or the inner recess: the following rock-cut tombs of Dyn. V also vary in their *ka*-doors with a tendency towards a shallow form.
- (5) Towards the end of Dyn. IV the framed *ka*-door appears resulting from the use of carved monoliths in a stepped wall of masonry; its first appearance was in large subsidiary *ka*-doors set in the façade of a mastaba; in Dyns. V and VI the small monolithic framed *ka*-door was in common use in medium and small mastabas, but did not exclude the use of *ka*-doors of deep form, particularly in c.b. constructions.
- (6) In Dyn. V, after the reign of Neweserra, the very elaborate false-door stela with hollow cornice and round mouldings came into use in large chapels of type (7) and its use was extended to chapels of type (5) and RC (iv) in the period from Neweserra to the end of Dyn. VI: examples occur in quite small mastabas; this type of *ka*-door was probably introduced in the pyramid temples of the first six kings of Dyn. V.

Examples of very narrow *ka*-doors of shallow traditional form occur near the end of Dyn. VI. As a result of the confusion of the forms found in Dyns. V and VI, largely depending on the means of the owner, the series of *ka*-doors outlined above have only an approximate value for the chronology of the chapels and mastabas in which they occur.

6. THE USE OF PALACE-FAÇADE PANELLING IN THE DECORATION OF CHAPELS: THE PALACE DOORWAY

The palace-façade panelling appears first as decorating the four exterior faces of the large c.b. mastabas of Dyn. I (see *Tomb Development*, p. 243). It was one section of the panelling which was used to replace one or both of the niches of the two-niched mastaba. This section of mastaba-façade (great door with three smaller compound niches on each side) was withdrawn within the mastaba in forming the cruciform chapel of palace-façade type and thus came to decorate the west wall of such chapels. The eastern face of many of the mastabas with interior cruciform chapels of palace-façade type was also decorated with a palace-façade panelling usually less complex than in the older palace-façade mastabas.

Mastabas of this form were frequent in the transition period from Dyn. III to Dyn. IV. Thus when the early stone mastabas at Giza were constructed, the palace-façade panelling was known as an exterior decoration of the mastaba itself and as a decoration of the west wall of the interior chapel. At this time the mastaba decoration with panelling in all four faces had become rare, and the decoration most frequently used was the section of panelling consisting of great door flanked on each side by three smaller *ka*-doors. It was this section which was represented by the *Prunkscheintür* ('palace door'), used as the actual offering-niche of the chapel.

At Giza the section of palace-façade panelling is found:

- (a) in the courtyards of c.b. temples;
- (b) on the exterior east face of a mastaba (one example);
- (c) on the exterior walls of stone chapels;
- (d) as alcove panelling in early rock-cut tombs;
- (e) used to replace the compound niche of traditional form;
- (f) to decorate a compound niche of traditional form;
- (g)-(i) to decorate the west wall of the chapel between or beside the two niches.

a. Palace-façade Panelling in the c.b. Temple of the Third Pyramid and the Chapels of its Subsidiary Pyramids

In both the Pyramid and the Valley Temples of Mycerinus the walls of the great open court were decorated on their inside faces with simplified palace-façade panelling. A similar panelling was found in the open courts of the c.b. temples of G III-a and III-b. In G III-a the actual offering-room was small and of cruciform type. Its doorway opened in the west wall of a N-S room, the west wall of which was decorated with a palace-façade panelling consisting of one great door flanked by three compound niches on each side of the doorway to the offering-room. In the temple of G III-c room 6 was again a N-S room with similar panelling in which again opened the doorway to the offering-room. Professor Selim Bey Hassan reports a c.b. court with simplified panelling found by him in the Rawer complex.

b. Palace-façade Panelling on the Face of a Mastaba

The panelling of the exterior faces of c.b. mastabas arose naturally out of the material and the method of construction. In stone-cased mastabas the panelling was foreign to the material and the construction and had to be carved at considerable cost. It is, therefore, very rarely that the outside of a stone mastaba was decorated. I know of only one real example, the mastaba of Sabuw (MM C 16). The white limestone casing where it is preserved on the east and south faces bears a shallow simplified panelling. At Giza the eastern face of the mastaba of Seshem-nofer (G 5080) has a shallow panelling begun at two places but unfinished. This unfinished panelling was exposed to view in the exterior chapel of the mastaba. Panelling also appears in the exterior serdab added south of the mastaba. In one other case, G I S, No. 8, a shallow *Prunkscheintür* was carved on the east face over the entrance to a sloping passage leading to the burial-chamber and again exposed to view in a room of the exterior chapel. It may be concluded that no stone mastaba at Giza had its outer faces decorated with panelling.

In one case a stone mastaba was partly cased with c.b. and the casing painted in bright colours with a palace-façade panelling:

- (1) G 2184: Akhet-mery-nesuwt: a composite structure with a stone mastaba as nucleus with an interior chapel and two subsidiary niches north of chapel; in a later stage an exterior square

room was added around the chapel doorway and the face of the nucleus mastaba northwards cased with c.b. forming the west wall of an exterior corridor; this c.b. wall had a series of four palace doors with five panels; the panelling was shallow, formed in the mud plaster of the brick-work, covered with white plaster, and painted in detail in bright colours; still later this wall was cased with white limestone on which were carved three shallow palace doors (with deep inner niche) separated by wall scenes carved in sunk relief: see below under h.

c. Palace Doors on the Exterior Walls of Chapels

Three chapels at Giza had the outer face of the east wall of the doorway embrasure decorated with palace-façade panelling:

- (1) G I-c, exterior chapel of white stone: Queen Henutsen: badly preserved, but certainly showing palace-façade panelling on each side of entrance.
- (2) G I S, No. 3: Prince Khufuw-dedef (Junker): on each side of the doorway to an interior chapel of type (3 a) is a palace-façade panelling consisting of a door with a panel on each side.
- (3) G 5150: 'Prince' Seshat-hetep: nummulitic chapel of type (4); on each side of the entrance in the doorway embrasure are a door and two panels.

The panelling in these three cases apparently showed the actual doorway as the central element of the panelling. The usage seems, therefore, to be similar to that of the N-S panelled rooms in the pyramid temples of G III-a and c. See 'The alcove panelling in the early rock-cut tombs', below.

d. The Alcove Panelling in the Early Rock-cut Tombs

In one of the rock-cut tombs, Prince Min-yuwen, the west wall of the pillared alcove bears a palace-façade panelling in which again an actual doorway occurs as the middle element of a palace-façade panelling.

- (1) LG 92: Prince Min-yuwen: west wall of alcove; in middle of west wall doorway to a shaft chamber (two shafts); the doorway is the great door of the panelling with the traditional decoration above, and on each side are flanking panels.

e. Palace Door as Chief Niche in Chapels of Type (3 b)

The offering-niche is in the form of a *Prunkscheintür* in four chapels of type (3 b) in the Eastern Field. The west walls of the two earlier chapels are not preserved, Queen Hetep-heres II (G 7530 + 7540) and Queen Nefert-kauw (G 7050); but the later examples show clearly the form of *Prunkscheintür*:

- (1) G 7530 + 7540: chapel of type (3 b) of white limestone; the lower part of the wall shows traces of panelling.
- (2) G 7050: Queen Nefert-kauw: chapel of type (3 b) of white limestone; the lower part of the wall still in place shows panelling.
- (3) G 7060: Neferma'at, son of Nefert-kauw: regulation *Prunkscheintür* in the middle of the west wall of a chapel of type (3 b); inscribed architrave: on each side the ends of the west wall are decorated with reliefs.
- (4) G 7070: Sneferuw-khaf, son of Neferma'at; like west wall of chapel of Neferma'at but without reliefs.

In one late mastaba, G 2184, an exterior corridor has a white stone casing on the west wall with three palace doors (with deep inner niche) separated by wall scenes in sunk relief. Behind this casing is a c.b.

wall with a series of four palace doors and five panels, and this covers a stone façade with two compound niches dedicated to the father and mother of the owner (Akhet-mery-nesuwt): see above, under b.

f. Compound Niches of Traditional Form decorated with Palace Door

Two of the chapels of type (3 a) of nummulitic limestone in the Eastern Field had the plain compound niche decorated with a palace-façade panelling:

- (1) G 7760: 'Prince' Min-dedef: on the back of the inner niche is a great door reaching to the bottom of the drum; on each side of the back of the outer recess is a panel (three dummy doors) reaching to the cross-bar.
- (2) G 7810: 'Prince' Zaty: a *Prunkscheintür* is represented four times, once each on the two backs and the two sides of the outer recess.

g. Palace Door on Each Side of Single Niche

In the rock-cut chapel of Meresankh III a palace door is represented on each side of the offering-niche:

- (1) G 7530: Queen Meresankh III: room (b), west wall; in the middle a shallow *ka*-door flanked on each side by a pair statue cut in the rock; south and north is a palace door.

h. Palace Door beside Niche of Traditional Form

The use of a palace door as accessory to a niche of traditional form occurs frequently at Saqqarah, but at Giza I have only one certain example:

- (1) G 7150: 'Prince' Khufuw-khaf II; the decorated chapel is a nearly square exterior room with the roof supported by a pillar; in the west wall south of the middle is a large compound niche and north of it the orifice of a serdab slot; south of the compound niche is a palace door.

i. Palace Door between Two Niches of Traditional Form

When the two-niched offering-room became common, the palace door was placed on the wall between the two niches:

- (1) LG 90: Debehen: room (b), west wall; with inscribed vertical panels.
- (2) LG 86: Prince Nebemakhet: room (b), west wall.
- (3) G 5340: Ka-seza: son of Kanofer (G 2150): chapel type (4); a palace door adjoining the south side of the north niche; space between palace door and south niche, with reliefs (men bringing the funerary meal).
- (4) G 2184: Akhet-mery-nesuwt: chapel type (4); between the two niches a palace door, painted but not incised; this mastaba, made and enlarged twice, has palace doors on two walls of the part of the mastaba marked off for the father, Kanofer, and the mother, Tenuw; see above, b.
- (5) G 2415: Weri, his wife Meti: chapel of type (4); palace door on west wall between two niches; serdab with seven statuettes.
- (6) G 1301: Mery-nesuwt and his wife Kaemsuw: corridor chapel with west wall lined with white limestone; palace door between two niches.

j. The Significance of the Palace Door in Chapels

An examination of all examples of the palace door in the chapels of Dyns. IV–VI shows that the occurrence is very erratic. Taking all the cases which can be assembled from the cemeteries of Memphis of the

Old Kingdom, the persons in whose chapels the palace door was used include members of the royal family (queens, princes, and princesses), officials of high priestly and civil rank, and a few persons of no great importance usually bearing the title of *rh nswt*. Other members of the royal family and officials of equally high rank did not use the palace façade in the decoration of their chapels. It seems clear that the use was a matter of adequate means and personal preference. At Giza the chapels decorated in one way or the other with the palace door appear in Dyn. IV to have been members of the royal family including grandsons of Cheops. But the examples of Dyn. V and later include some persons of little importance. The palace doorway in the chapel of Akhet-mery-nesuwt (G 2184) may have been by the favour of the king, since the last addition, the white limestone lining on the west wall of the corridor, was a present from the king.

APPENDIX A

DESCRIPTIONS OF THE CORE-MASTABAS IN THE NUCLEUS CEMETERY G 1200

THE nucleus cemetery G 1200 consists of ten mastabas in three E-W rows and five N-S lines. All ten of the original cores are of type II a, and nine are of the normal size of the Western Field. These nine of normal size are in regular rows and lines, separated by streets and avenues. The southern E-W row contains four cores, G 1203, G 1205, G 1207, and G 1209. North of this row is the middle E-W row of three mastabas, G 1223 (alined with G 1203), G 1225 (alined with G 1205), and G 1227 (alined with G 1207). The northern E-W row contains only two mastabas, G 1233 (alined with G 1223) and G 1235 (alined with G 1225). Four of these cores had an addition or annex on the north end with burial-shaft for husband or wife. The tenth core, also of type II a, was of larger size and situated east of the southern row, east of G 1203. Its northern end was alined with the northern ends of the mastabas of the southern row. All these cores were designed to be finished as one-shaft mastabas, and each of the original shafts was a 2-metre shaft with a lined burial-chamber of type I. Eight of the cores had a slab-stela fixed in an emplacement cut in the retaining wall of the core. Five of the slab-stelae were exposed to view in the offering-room of an exterior c.b. chapel. Three of the cores were being enlarged and finished with white limestone casing when the work was abandoned. These are the tombs of the most important persons in the cemetery: (1) the larger mastaba, G 1201, belonging to Prince Wepemnofret; (2) the first mastaba in the middle row, G 1223, belonging to Prince Ka-m-aha; and (3) the second mastaba in the same row, G 1225, belonging to Princess Nefert-yabet. These enlarged mastabas, enlarged with core-work of type IV-iii, were designed as white-cased mastabas with interior white chapels with one niche, but none was finished as designed. The chapels of two of them were completed with c.b. rooms. The last mastaba in the southern row, G 1209, had an exterior c.b. chapel with a niche in which the retaining wall of the mastaba was exposed, but this niche contained no emplacement for a slab-stela. The eastern core in the northern row, G 1233, had a mastaba of Dyn. V built against its eastern façade and no trace of a chapel was preserved.

I conclude that the four mastabas G 1223, G 1203, G 1225, and G 1205 were finished first and with them, but probably later, was built G 1201. These I designate as the five initial mastabas of this cemetery. The other five, added on the west and north of the initial group, were built practically continuously with no lapse of time. The types of the cores and the burial-shafts are so uniform that I conclude they were all carried out by a working-gang of Cheops. One of the lining-blocks of the chamber of G 1205 actually bore the name of an *cpw* of the Horus Mezeduw.

G 1201: eastern mastaba in the southern row, a larger core set in front of G 1203.

See Map 4 and Figs. 104 (chapel), 199 (*ka*-door), 216 (section of mastaba), 217 (shaft), 218 (objects).

See Pl. 11 a-d; 17 a (slab-stela); 21 a.

Name: Wepemnofret, *mdh sš nšwt mdh* . . . (lioness with stick upright on back) *hm ntr Ššit hnt-t pr mdst rh nšwt*, *hm brw P*, *hm ntr Hr-mhty*, *hm ntr Inpw* (?) *qd-mr wls* (?), *wr md šmew*, *hki Mhyt* (determined by a lioness), *hm ntr Hkt*, *ht Hs* (desert sign on standard), *sš nšwt*.

Mastaba: core of type II a, 39.5 × 18.1 m.; area, 714.95 sq. m.; prop. 1/2.12; retaining wall of small stepped courses of hard drab limestone; filled with gravel and sand; irregular compartments in the filling, built of rough stones sometimes mud-plastered on one side; 11 steps on south and 13 steps on north; lowest course on south becomes fourth course on north; average height of steps, 37.2 cm.; average width of steps, 10.7 cm.; angle of the batter, 74 degrees 27 minutes.

Enlarged by addition of massive core-work of type IV-iii on east face of stepped core; retaining wall of massive stepped courses filled with small stones and rubbish; unfinished y-casing of white limestone on all four sides, and with an unfinished interior chapel of white limestone of type (3 a); final size: 41.8 × 23.8 m.; area, 994.84 sq. m.; prop. 1/1.76.

Chapel: in the west face of the stepped core at 7.75 m. from the SE corner was a slab-stela bound with plaster

in an emplacement in the retaining wall which may indicate an exterior c.b. chapel of type (1 a), but all traces of this chapel were destroyed when the additional core-work was added; the slab-stela was found covered with a plain slab of limestone (bound with plaster) to protect it during the later construction work.

Chapel (2): unfinished interior chapel of white limestone of type (3 a), in addition of type IV-iii; after the construction of the west wall of the offering-room of this chapel, the chapel was finished as a c.b. chapel (see Chapel (3)); the west wall consisted of four upright slabs, not dressed on top; the second slab from the south was set back to form the offering-niche, and in it was cut a *ka*-door of traditional form.

Chapel (3): of c.b. built against the stone slabs of the west wall of the second chapel; consists of four rooms as follows:

- (a) N-S offering room, entered from east by doorway in north end of its east wall: with one niche in west wall, the original stone *ka*-door of chapel (2); 4.9×1.85 m., area, 9.06 sq. m.; prop. $1/2.65$ m.; in this room was found a pottery bowl-stand still in place before the niche.

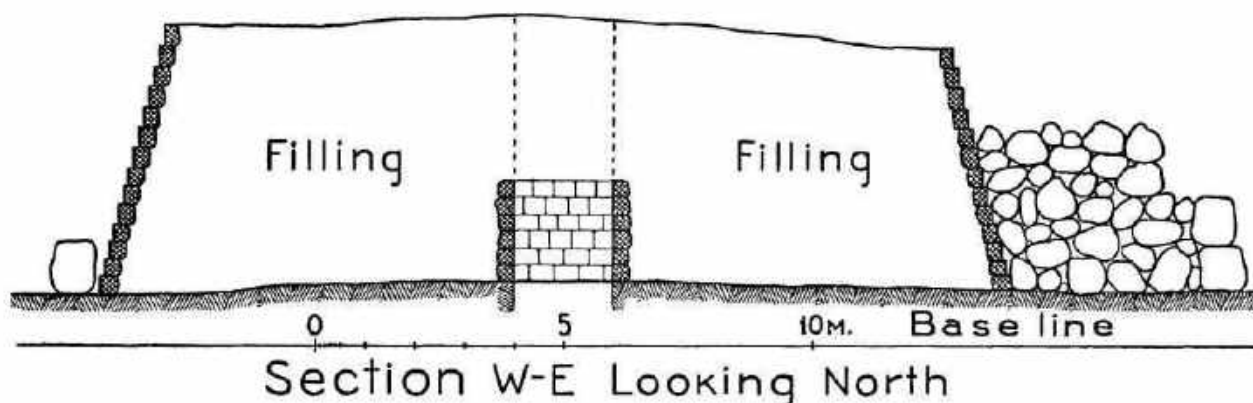


Fig. 216

- (b) a great open court east of (a), in the northern side of which has been built the magazine (c) and the vestibule (d): originally the court measured 4.9×4.75 m., with area of 37.97 sq. m.; after the construction of rooms (c) and (d), the floor area was reduced to 28.79 sq. m.; entered from north from anteroom (d); entered also from magazine (c) from east; doorway to (a) in north end of west wall.
- (c) magazine against middle of north wall of court, west of vestibule: 1.3×2.0 m.; area, 2.6 sq. m.; entered from east from vestibule by doorway in south end of east wall; with doorway in west wall opening in court; in debris of decay, several pottery vessels.
- (d) vestibule room in NE corner of court: marked off by pilaster in east wall of court; 1.3×2.05 m.; area, 2.66 sq. m.; entered from north by doorway in north wall; in west wall, doorway to magazine (c); a doorway to the east end of the court is indicated and was probably in the east end of the south wall.

Total floor area of chapel (3), 43.11 sq. m.

Slab-stela: fine white limestone; carved in fine low relief; painted colours (well preserved); 66 m. long \times 45.7 m. high and 7.6 cm. thick; traditional tablet scene: Wepemnofret, seated facing to right at table of bread (low loaves); full wig, panther-skin robe, chin beard; extends right hand to table and holds tie on shoulder with left hand; under the table a short ideographic list, with *ss*-ointment (?) and *nnht* on the left, and on the right bread and beer, continued beneath the platform on which the table stands by head of oryx and head of bull; in front of the face of Wepemnofret is a ewer and basin (*ic*), and to the right of this are five vertical lines of inscription, separated by vertical lines in relief, containing the short list of offerings; the first two lines are above the bread, and the last three are continued downwards to the bottom of the table; the end of line 3 is mixed with the ideographic list under the table; to the right of the short list is a full linen list (old compartment list); to the right of the compartment list are two vertical lines of titles continued by a horizontal line across the top of the slab: the name is written in the field over the head of Wepemnofret. Pls. 11, 17 a.

Shaft: one shaft in the core north of middle in position of shaft in one-shaft mastaba; 2.1×2.1 m.; 10.88 m. in rock; lined above with masonry as retaining wall, 2.0 m.

Chamber: type 1 a; on south; lined chamber, 3.2×4.1 m. and 3.42 m. high; area, 13.12 sq. m.; capacity, 44.87 cub. m.; rock chamber, 4.2×5.0 m. and 3.7 m. high; area, 21.0 sq. m.; capacity, 77.7 cub. m.

Passage: horizontal, opening low down in east end of north wall of chamber; size in rock, 2.08×1.32 m. and 1.38 m. high; cut through the lining and lengthened thus to 2.56 m.; step down from floor of passage to floor of paved chamber, 0.24 m., and to rock, 0.5 m.; opening in lining, roofed with one long block.

Blocking: type I b; interior blocking of masonry set in plaster (partly preserved) and portcullis slab outside (found broken).

Coffin: fine white limestone coffin with flat lid (type d), broken in fragments which were partly in debris of shaft and partly in debris over shaft; not complete.

Canopic pit: in SE corner, cut through pavement (0.24 m.) and into rock, 0.65×0.56 m. and 0.59 m. deep; rebate not preserved.

Lining and pavement: lining of fine white limestone about 0.5 m. thick, smoothly dressed; pavement of similar stone, laid after the construction of the lining; both dressed smooth after construction; on the ceiling and walls red lines mark the faces of the lining wall, and a level.

See Figs. 217, 218.

Objects found in debris of chamber and shaft:

(1) RW: red wash; jar with neck and roll rim, narrow flat bottom; type B-XVII a; h. 17 cm.; d. body 11.6 cm. See Fig. 218.

(2) RW: red wash; jar like No. 1; h. 16 cm.; d. body, 11 cm. See Fig. 218.

(3) RW: red wash; jar like No. 1; h. 12.8 cm.; d. body, 10 cm. See Fig. 218.

(4) RW: red wash; jar type B-XVIII; h. 12.3 cm.; d. body, 10 cm. See Fig. 218.

(5-7) RW: red wash; three jars like No. 4; type B-XVII a.

(8) RW: red wash; jar, bulging shoulder with short neck and roll rim; tapering base, with small flatness on bottom (probably accidental), classed as type A-VI b; h. 18.5 cm.; d. shoulder, 12 cm. See Fig. 218.

(9) RW: red wash; small jar similar to No. 8; type A-VI b; h. 13 cm.; d. shoulder, 9.5 cm.

(10) RW: red wash; jar of type A VI b; h. 21.5 cm.; d. shoulder, 13.2 cm. See Fig. 218.

(11) RBrW: wet smoothed; neckless shoulder jar; type B-LV a; h. 13 cm.; d. shoulder, 11.4 cm. See Fig. 218.

(12-13) RBrW: wet smoothed; neckless shoulder jars like No. 11.

(14) RBrW: smoothed; small model neckless shoulder jar; type B-LV a; h. 5.5 cm.; d. shoulder, 6 cm.

(15) RBrW: belted barrel jar; type B-LVIII a-m; h. 10 cm.; d. max. 6.8 cm.; d. rim, 3.8 cm.; d. base, 4.2 cm.; belt indicated by horizontal groove. See Fig. 218.

(16) RBrW: smooth; model belted barrel jar; type B-LVIII a-m; h. 9.2 cm.; d. rim, 4.2 cm.; d. max. 6.0 cm.; d. base, 3.0 cm.; belt indicated by horizontal groove.

(17) RP: square shoulder jar with short neck and roll rim; type B-XIX b; h. 12.5 cm.; d. rim, 7.5 cm.; d. shoulder, 12 cm.; d. base, 7.0 cm. See Fig. 218.

(18) RP: hard; small dish with straight sides spreading upwards; type LXXIII a; h. 1.5 cm.; d. rim, 10 cm.; d. base, 8.2 cm. See Fig. 218.

(19) Copper; model adze blade; length, 8.6 cm.; w. 2-2.4 cm.; thickness, 1-1.5 cm. See Fig. 218.

(20) Flint: chipped flake with two rounded ends (butt wider); length, 11.2 cm.; w. at butt, 1.4 cm.; thickness, 0.8 cm.; razor blade. See Fig. 218.

(21) Alab.: model round-bottomed saucer; type S-IX a; h. 0.5 cm.; d. 6.5 cm. See Fig. 218.

Later Intrusions and Constructions: in the addition of massive masonry are the intrusive shafts P on north of the chapel and W at north end of east face; along the east face of the additions are other shafts made after the sanding-up of the cemetery, shafts X, Y, Z, V, and U; the secondary mastabas in Cem. G 1100, older than these intrusive shafts, covered the whole east face of the mastaba and were built right up to the façade of the addition; the mastaba G 1151 was built east of the c.b. chapel of G 1201 but not touching it; the chapel of G 1201 was entered from the north from an empty space north of G 1151, and this space was entered from the east by a tortuous path winding among the small mastabas.

North of G 1201 and east of G 1223 was a large c.b. mastaba, G 1221, the earliest mastaba added after the construction of the nucleus cores; the avenue between the southern and the middle row of nucleus cores was also occupied by secondary mastabas extending between G 1201 and G 1221.

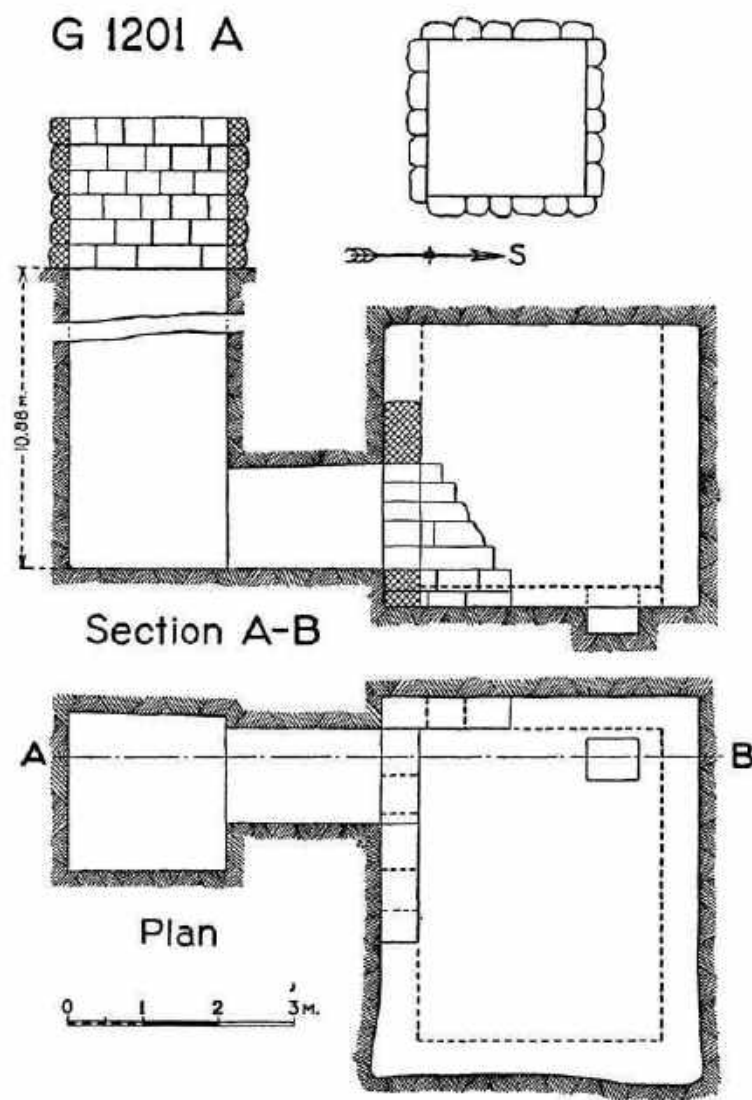


Fig. 217

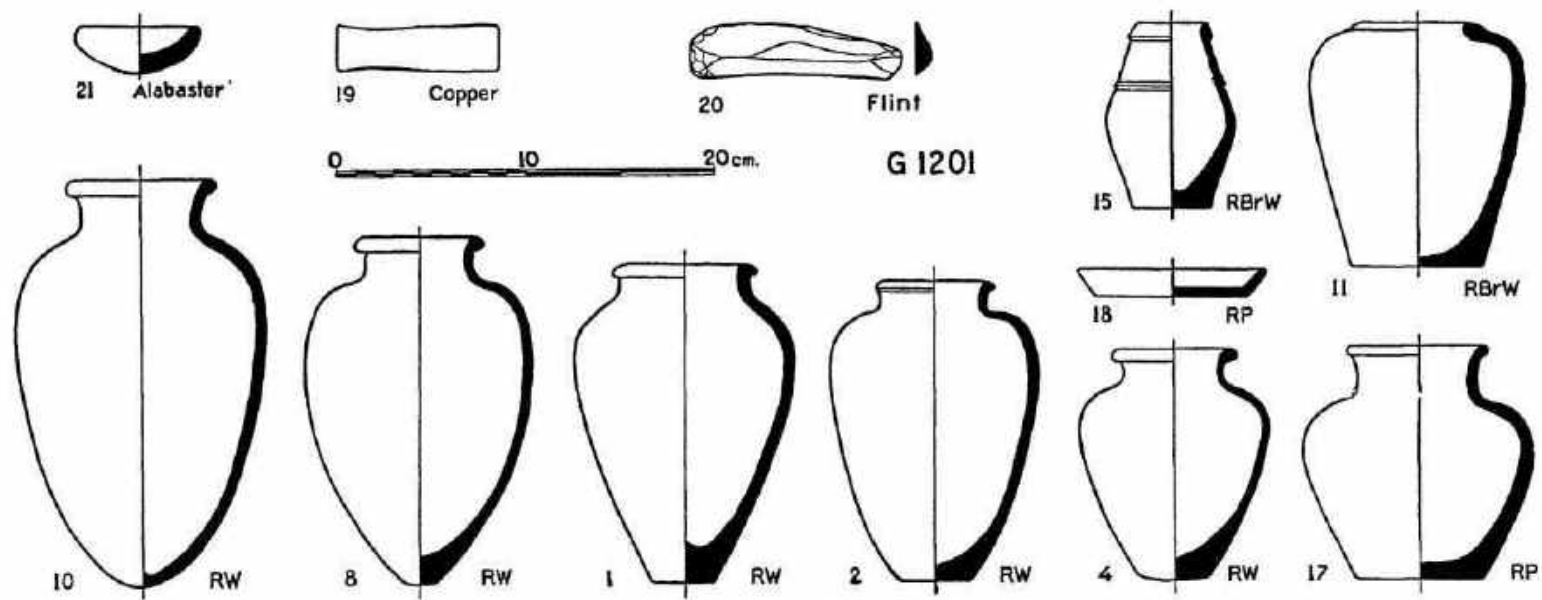


Fig. 218

The cemetery of secondary mastabas extended around the southern end of G 1201 and northwards along its western side as far as G 1203; between G 1201 and G 1203 was a mastaba, G 1202, overbuilt by late intrusive shafts.

G 1203: second core in the southern row, of normal size.

See Map 4 and Figs. 1 (mastaba and chapel), 94 (chapel), 219 (shaft), 220 (objects).

See Pls. 12 a, b; 17; 21 b-f; 22 a-e.

Name: Kanofer, *imy-rs wprwt, hrp tms*.

Mastaba: core of type II a, uncased; 24.0×10.6 m. (10.25 m. on south end and 10.95 m. on north end: rock slopes northwards); area, 254.4 sq. m.; prop. 1/2.26; max. height, 5.1 m.; retaining wall of z-masonry of vertical-faced stepped courses of drab limestone, filled with gravel and rubbish *pari passu* with construction of retaining wall; built on rock sloping northwards so that the lowest course on the south end becomes course 3 on the north end; on the south, ten courses are preserved, and in the north end, twelve courses; the heights of the separate stepped courses (taken at the SW, SE, and NE corners) range from 27 to 50 cm., with an average height of 36.6 cm.; average width of steps, 10.7 cm.; the general batter of the faces shown by a line touching the edges of the steps is about 74 degrees 57 minutes from the horizontal.

Chapel: exterior c.b. chapel of type (1 a); built around slab-stela set in emplacement in face of mastaba, at 2.9-3.4 m. from SE corner of mastaba; this stela is exposed in a niche, 1.1 m. wide, in the c.b. west wall of the offering-room; the c.b. chapel begins at 0.7 m. from the SE corner of the mastaba and measures outside, 6.85×4.5 m.; the west wall is built on the four lower courses of the mastaba; inner surfaces were mud-plastered and whitened; consists of three rooms and open court:

- inner N-S offering-room, 5.9×1.7 m.; area, 10.03 sq. m.; prop. 1/3.47; with slab-stela in niche in c.b. west wall south of middle; low mud offering-platform (1.3×1.0 m.) and about 10 cm. high in front of niche; entered from east by doorway in north end of east wall, from room (c); roofed with c.b. leaning-course vault with courses leaning against north wall; part of vault preserved to its full height of 2.66 m. (2.66 m. from mud-plastered floor to under-side of vault); in north wall, at 1.93 m. above floor, four tall narrow slit-windows; the slits were half a brick wide and separated by walls half a brick thick; height of windows probably 0.4 m.; the north wall, 0.47 m. thick, was built first, then the east wall (0.62 m. thick) and the west wall (0.3 m. thick, supported by retaining wall), and finally the south wall (0.45 m. thick); on the side walls (east and west) was constructed the c.b. vault with its courses leaning against the north wall.
- magazine east of (a) and south of vestibule room (c): 2.9×1.3 m.; area, 3.77 sq. m.; entered from (c) by doorway in west end of north wall; preserved to a height of c. 2.0 m. showing the lowest course of a c.b. leaning vault white-plastered inside; built after room (a); first an E-W wall was built between the SE outer corner of room (a) and the unfinished white casing of G 1201 (being 0.25 m. thick) which closed the southern end of the street; later room (b) was built; the south wall was thickened to 0.45 m. by a wall built against the thin cross-wall; bonded with the thickening of this south wall, the east wall of rooms (b) and (c) was built and closed

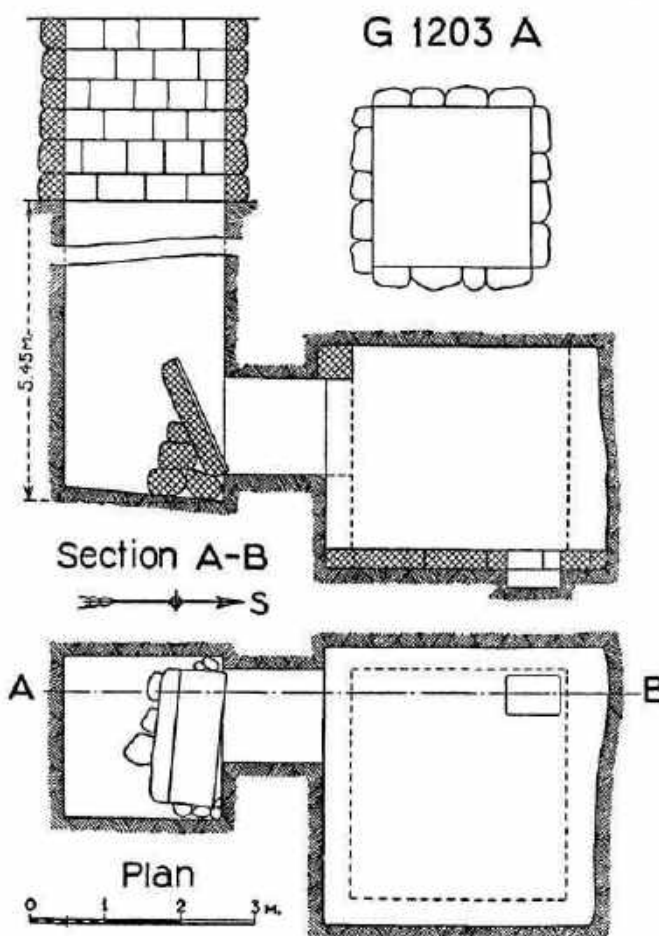


Fig. 219

with the north wall of room (c); then the dividing wall between (b) and (c) was built and the two rooms roofed with a c.b. vault; the c.b. walls of rooms (b) and (c) were built on rubbish and are now seen slightly askew owing to subsidence.

- (c) vestibule room east of north end of room (a) and north of room (b); built with room (b), see above; 2.85×1.25 m.; area, 3.56 sq. m.; entrance doorway in north wall from court (d); doorway to (a), in west wall, north end; doorway in south wall to magazine (b); originally the entrance was from the east but when the court was added this doorway was blocked with c.b. and the second entrance rabbeted on the inside for a one-leaf wooden door; roofed with leaning-course vault (see room (b)).
- (d) open court north of rooms (a)–(c); 2.55×3.45 m.; area, 8.79 sq. m.; entered from north by doorway in east end of north wall; doorway to vestibule (c), in east end of south wall; height of walls as preserved about 1.0 m. (originally 2.0 (?) m.).

Total floor area of rooms (a)–(c), 17.36 sq. m.

Total floor area including court, 26.15 sq. m.

The order of construction of the rooms and court is (a), (b) + (c), and (d) (court); the connecting E–W wall was built after the casing of G 1201 had been abandoned unfinished; the east wall of rooms (b) + (c) rested on debris which covered the lowest course of the same unfinished casing. I reconstruct the history as follows: (1) G 1203 was finished with c.b. room (a), before G 1201 was built; (2) after the attempt to finish G 1201 with white casing, the rooms (b) + (c) were added to the chapel of G 1203, and a little later the court (d) was constructed.

Slab-stela: broken in ten large fragments and several small fragments; all but one were found in the debris of room (a) east of the emplacement; one large fragment was found to the north in the debris of the shaft of a secondary mastaba; Kanofer seated facing to right at table of bread (rather conventionalized compared with Wepemnofret); short close wig, long robe; extends right hand to table and holds tie of robe on left shoulder with left hand; chair on low platform; under the table, an ideographic list with *šš*-ointment on left, and on the right, head of bull, head of oryx, and two heads of birds; above the bread in front of face a *kbbi*-jar on a stand and *kr*; to the right of this, short list of offerings consisting of four words (*šhpt*, *irp*, *dib*, *išd*) not separated by vertical lines; under these words a haunch of beef; to the right of the table scene, a linen list (old compartment list) filling the rest of the slab; across the top to the left of the linen list, a horizontal line, *imy-r* *wprwt*, *hrp tm* *Ki-nfr*.

See Pl. 17 b.

Shaft: one shaft in the position of the shaft in the one-shaft mastaba (north of middle); 2.1×2.1 m.; —5.45 m. in rock; lined above with drab masonry (as retaining wall of mastaba), 2.4 m., 6 courses.

Chamber: type 1 al; on south; lined chamber, 2.87×3.07 and 2.65 m. high; area, 8.8 sq. m.; capacity, 23.32 cub. m.; rock chamber, 3.65×3.7 m. and 2.9 m. high; area, 13.5 sq. m.; capacity, 39.15 cub. m.; passage enters chamber in east end of north wall.

Passage: rock-cut, 1.35×1.25 m. and 1.27 m. high; extended through lining to a length of 1.7 m.; step down from floor of passage to paved floor of chamber, 0.95 m. and 1.2 m. to rock.

Blocking: remains of interior blocking of white masonry set in plaster with portcullis slab outside, type I b.

Coffin: no evidence.

Canopic pit: in SE corner; 0.72×0.53 m. and 0.49 m. deep; no rebate preserved.

Lining and pavement: lined with smoothly dressed white limestone, partly destroyed; pavement of similar masonry laid after the construction of the lining; on wall and ceiling, red construction lines for the construction of the lining; in shaft a vertical red line in the middle of each face runs from top of masonry to bottom of rock-cut shaft.

Objects found in debris of shaft and chamber:

- (1) Portrait head ('reserve head') of white limestone; life-size; h. 25.5 cm.; Pl. 21 f (*in situ*), Pl. 22 a–e.
- (2) RW: smooth; fragments of basin of type D-XXXVI; with modified recurved rim and half-open spout; h. 20 cm.; d. body 35 cm. See Fig. 220.

- (3) RP: dull polish; bowl with recurved rim; d. c. 25 cm.
- (4) RP: dull polish; bowl with recurved rim; d. 25 cm. See Fig. 220.
- (5) RP: frags. jar with short neck, roll rim, swelling shoulder and tapering base; probably type A-VI b; h. c. 35 cm. See Fig. 220.
- (6) DbW: fine-grained; nearly black on inner surface; small flat-bottomed shoulder jar with short neck and roll rim; type B-XVII b; h. c. 20 cm.
- (7) Frags. DbW: like No. 6.
- (8) Mud ware with brown surface and black fracture: frags. large tub, type D-LXXI a; d. c. 80 cm.; d. inside bottom, 30 cm.
- (9) WSRW: jar type A-II b; h. c. 35 cm.

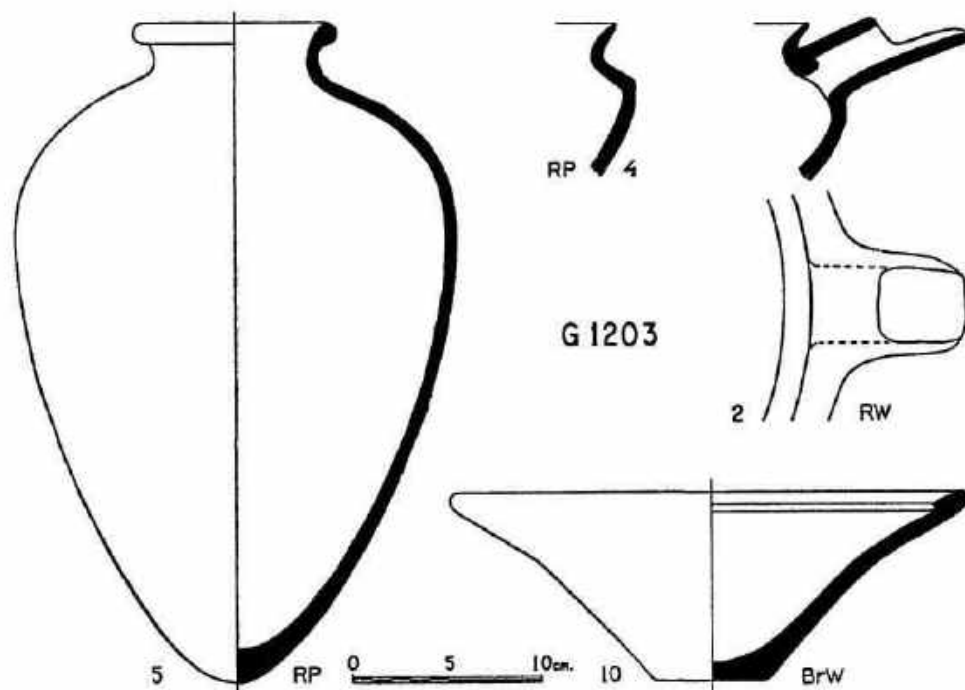


Fig. 220

- (10) BrW: smooth; flaring flat-bottomed bowl with internal moulding; type D-LXXV; h. 10 cm.; d. 28 cm. See Fig. 220.
- (11) RP: frag., small.
- (12) White limestone: lining block with quarry mark in red paint; three *mḥ* (?) signs in a vertical row. Photos: HE-11104-5.
- (13) One half of human femur.
- (14) Alab.: two fitting frags. of round-bottomed model bowl; type S-IX a.
- (15) Alab.: frags. of model like No. 14; in chamber.
- (16) Alab.: frag. base of large cyl. jar, with concave sides, type S-I d; found in debris thrown out from shaft between G 1203 and G 1205.
- (17) W. 1st.: frag. of statuette found between G 1203 and G 1205.
- (18) Alab.: frag. of rim and side of bowl jar with contracted mouth.
- (19) White limestone builder's fragment inscribed: *hst sp 5* (year 9), *ibd* (?), *ššw* . . . (rest unintelligible); found in filling of mastaba, probably from lining of burial-chamber; Reg. No. 38-2-5.

Later Constructions and Intrusions: after the abandonment of the services in the exterior c.b. chapel of G 1203, the street immediately north of the open court (d) was filled by a small mastaba, G 1202 (of type VIII c (1)), built against the north wall of the court, against the east face of G 1203, and against the unfinished casing of G 1201; this mastaba blocked the access to the exterior chapel of G 1203; its northern end was overbuilt by a small mastaba at a much higher level constructed in drift sand. South of the exterior c.b. chapel and the south end

of G 1203 itself, the mastabas of the secondary cemetery (G 1351-1378) were built and the northernmost were in contact with G 1203 and its chapel.

G 1205: third mastaba in southern row; normal size.

See Map 4 and Figs. 95 (chapel), 221 (shaft).

See Pls. 12 c, d; 13 a, b; 18 a; 22 f, g; 23 a, b.

Name: *Khufuw-nekht, rḥ nswt*.

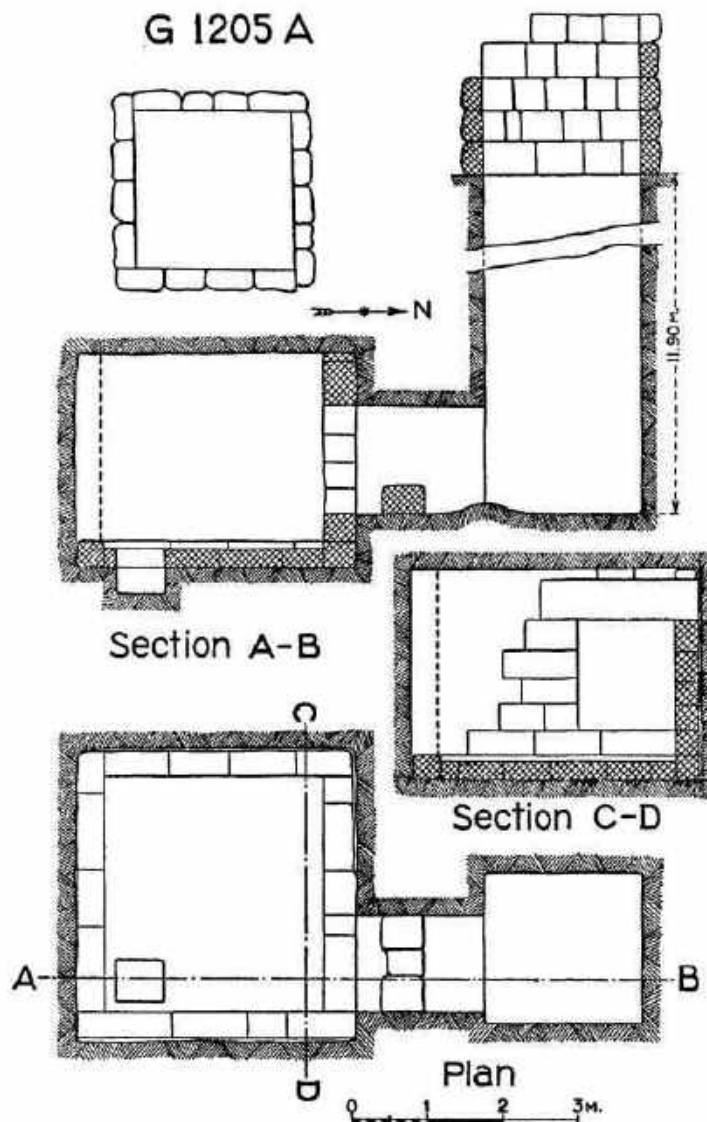


Fig. 221

Mastaba: core-mastaba of type II a, uncased; 24.0×10.77 m. (10.65 m. on south end and 10.9 m. on north); area, 258.48 sq. m.; prop. 1/2.23; max. height, 4.1 m.; retaining wall of 2-masonry (vertical-faced stepped courses of drab num. limestone, filled with gravel and rubbish *pari passu* with construction of retaining wall); built on rock sloping northwards so that the lowest course at south became course 2 on north; eleven courses preserved on south and twelve on north, of which the two top courses are partly weathered away; the heights of the courses average 34.2 cm., but vary considerably around the mean; the vertical courses are set back an average of 10.5 cm.; the general batter is 74 degrees 3 minutes from the horizontal.

Chapel: exterior c.b. chapel of type (1 a) built around a slab-stela set in emplacement in face of mastaba at 3.15-3.8 m. from SE corner of mastaba; this stela is exposed in a niche 1.1 m. wide in the c.b. west wall of the offering-room; the c.b. chapel has been altered and damaged by intrusive shafts on the east; as preserved, its outside measurements are 10.35×5.02 m. with a gross area of 51.95 sq. m.; west wall built over lower courses of

retaining wall of mastaba; probably an open court on the north was destroyed when the mastaba G 1204 was built, filling the street between G 1203 and G 1205 north of the chapel; inner surfaces and platforms, mud-plastered and whitened (not fully preserved); as preserved, the chapel contained 5 rooms:

- (a) inner N-S offering-room: 7.7×2.05 m.; area, 15.78 sq. m.; prop. $1/3.8$; slab-stela in plain niche near south end of west wall; in front of niche mud offering-platform, 2.12×1.4 m., about 5 cm. high on south and 20 cm. on north; a second platform (a statue basis) in SE corner of room, 0.8×0.6 m. and 24 cm. high, approached by ramp from the north (0.5 m. long); entered by two doorways from east; original doorway in north end of east wall from room (c); second doorway cut later in south end of east wall (opposite stela) entered from (b); no trace of roofing preserved (either c.b. leaning-course vault or wooden roof); floor, mud-plastered and sloping to north with a fall of 24 cm.; a third doorway opens northwards into room (e); south wall, 0.47 m. thick, now stands 0.86 m. above floor; west wall, built on courses of mastaba, 0.2 m. thick at top, stands max. height of c. 2.0 m.; the east wall originally 0.53 m. thick, widened later to 0.8 m. north of south doorway, stands now 2.15 m. high between the doorways; the north wall, 0.35 m. thick.
- (b) east of the south part of room (a): 2.27×1.45 m.; area, 3.29 sq. m.; entered from east from outside by doorway in east wall; doorway to room (a) in west wall; thickness of walls, 0.47 m. on south, 0.52 m. on west, 0.45 m. on east, and 0.3 m. on north.
- (c) north of (b): 3.95×1.25 m.; area, 4.93 sq. m.; east wall destroyed by the intrusion of small mastaba, G 1367; originally bounded on east by the main wall, 0.45 m. thick; and on the west by a thin wall, 0.28 m. thick; a small doorway in west wall leads to room (a), but was blocked by the thick east wall of room (a) when that room was reconstructed; doorway from (d) in destroyed north wall.
- (d) vestibule room north of (c): $2.5 (?) \times 1.05$ m.; area, 2.62 sq. m.; the north end has been cut away; west wall, 0.45 m. thick; on east, 0.55 m. and on south, 0.42 m.; entered from outside by doorway in east wall; in west wall, doorway to room (a) on south and doorway to room (e) on north.
- (e) magazine north of (a) and west of northern part of (d): 1.5×2.25 m.; area, 3.37 sq. m.; entered from (d) by doorway in north end of east wall; doorway to room (a), in east end of south wall; thickness of south wall 0.35 m., of west wall 0.3 m., of north wall 0.35 m., and of east wall 0.47 m.; the SE corner has been repaired on the inside by a thin wall, 0.13 m. thick.

Total floor area, rooms (a)-(e), 29.99 sq. m.

Construction of Chapel:

- (1) South wall of rooms (a) and (b) (0.46 m. thick) bonded with east wall of rooms (b), (c), (d) (0.45 m. thick).
- (2) The thin wall on the west of room (c) which probably ran the whole length of room (a) (0.28 m. thick, originally 0.35 m. thick) with a doorway into (a).
- (3) The west wall of (a) and (e) built on the mastaba courses and the north wall of (a) as far as doorway into (e).
- (4) Possibly the north wall of (c) and its east wall, 0.35 m. thick (probably built originally in continuation of No. 2 above).
- (5) The present east wall of room (a), 0.52 m. thick; built against the west side of No. 2 above.
- (6) The north wall of (c).
- (7) The thin south wall of (c) which may, however, have been part of the construction of G 1367; up to this time, rooms (b) and (c) were probably one long room with a single doorway into (a).
- (8) The rubble-faced mastaba, G 1367, was intruded in room (c), entailing the destruction of the east wall of that room; G 1367 was on floor-level of the mastaba and probably belonged to a person related to Khufuw-nekht or his funerary service: after this construction, the doorway in the east wall of room (b) was cut.
- (9) The two intrusive shafts, G 1204 X and Y, between G 1367 and the back of G 1203, were probably made later after the sanding-up of the cemetery.

The mud platforms in room (a) belonged to the first period of the chapel; the offering-platform was reconstructed later; the statue basis was made after the reconstruction of the east wall of room (a).

Slab-stela: found in place bound with plaster: 52.6 cm. long, 38 cm. high, and 8.2 cm. thick; fine low relief with traces of colours. Khufuw-nekht seated, facing to right at table of bread (low loaves); short close wig, long robe;

right hand extended to table and left hand holding shoulder tie of robe; under table ideographic list *šš*-ointment on left and on right heads of oryx, bull, and two birds; in front of face vertically, *kbh*-vase, ewer and basin (*ic*), and four pellets of natron; above the bread a short list of offerings in three horizontal lines separated by horizontal lines in relief: line (1), *šntr*, *hnt*, *wšdw*, *msdmt*, and *db*; line (2) *nbs*, *irp*, *išd*, and *wrh*; line (3) two haunches of beef, two basins on stands, and a small obliterated space: to the right of the table, a linen list takes the full height of the slab (four kinds of linen); in the field above the head to the left of the short list of offerings is written horizontally *rh nšwt Hwfw-nht*.

Shaft: one shaft in position of shaft in one-shaft mastaba, north of middle; 2.1×2.1 m.; — 11.9 m. in rock; lined above with drab masonry (as retaining wall) 2.15 m., originally 5.25 m. to top of mastaba.

Chamber: type 1 al, with smooth white lining; on south; lined chamber, 2.9×3.1 m. and 2.5 m. high; area, 8.99 sq. m.; capacity, 22.46 cub. m.; rock chamber, 3.7×3.85 m. and 2.85 m. high; area, 14.24 sq. m.; capacity, 40.58 cub. m.; entered by passage opening in east end of north wall; low down.

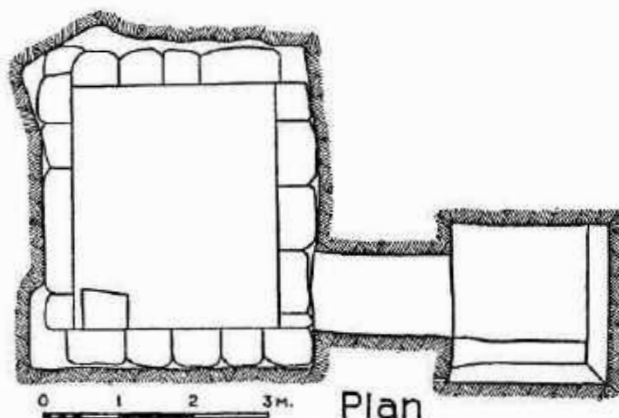


Fig. 222. G 1207

Passage: in rock, 1.7×1.25 m. and 1.45 m. high; length through lining, 2.1 m.; step down from floor of passage to paved floor of chamber, 0.45 m., and to rock, 0.7 m.

Blocking: remains of masonry blocking set in plaster, and great portcullis slab outside (only frags. found); type I b.

Coffin: no trace.

Canopic pit: in SE corner; 0.65×0.55 m. and 0.6 m. deep (0.35 m. in rock); no rebate for lid.

Lining and pavement: lined with smoothly dressed limestone masonry, preserved on north wall and to top of first course on other three sides; pavement of similar masonry, completely preserved; pavement laid after construction of lining; lining and pavement dressed at one operation; red construction lines on walls and ceiling.

Completely plundered: no objects found; in debris in shaft was found a block of white lining inscribed in red paint *Hr Mddw cprw* . . .

Later Constructions and Intrusions: see alteration in chapel above; the mastaba G 1204 of type VIII c (1) was constructed filling the street between G 1203 and G 1205 north of the exterior c.b. chapel of G 1205, probably before the complete cessation of the services in that chapel; its south wall closed the street north of the chapel with a blank wall; the chapel of G 1204 was entered from the north; probably later than G 1204, the small mastaba G 1367 was intruded in room (c) of the chapel of G 1205; after the sanding-up of the cemetery two shafts of type 8 were intruded south of G 1204.

G 1207: fourth core-mastaba in southern row; of normal size.

See Map 4 and Figs. 99 (chapel), 222 (shaft).

See Pls. 13 c, d, e; 18 b.

Name: Nofer(t), *rh nšwt*.

Mastaba: core-mastaba of type II a, of normal size; 24.35×10.76 m. (10.52 m. on south and 11.0 m. on north); area, 262.0 sq. m.; prop. $1/2.2$; max. height, c. 5.0 m.; retaining wall like G 1203 of z-masonry of drab limestone, filled with gravel and rubbish; on sloping rock so that lowest course on south became course 3 on north; eleven courses preserved on south and thirteen on north; average height of stepped courses 37.2 cm., but varies as G 1205; the width of the steps averages 10.8 cm.; the general batter is 74 degrees 18 minutes from the horizontal.

Chapel: exterior c.b. chapel of type (1 a), built around slab-stela fixed in face of mastaba at 2.77–3.27 m. from the SE corner of the mastaba; stela exposed in niche 0.57 m. wide in c.b. west wall of offering-room; the chapel as preserved is a reconstruction made after the building of G 1206; it now measures outside 6.8×3.8 m. with an area of 25.84 sq. m.; the west wall, 0.65 m. thick at top, is built over stepped courses of mastaba;

mud-plastered walls and whitened (not fully preserved); as at present, chapel contains three rooms, (a), (b), (c), probably with open court destroyed by G 1206:

- (a) originally a N-S offering-room, 4.67×2.8 m.; altered by the construction of room (b) in the NE quarter of the room; present floor area of (a), 9.5 sq. m.; with slab-stela exposed in niche in west wall towards south end; in front of niche a mud platform, 2.22×0.7 m.; extends northwards from south wall of room and built in four sections rising to different heights; the southern section, probably a statue basis, 0.65×0.6 m., rises 0.15 m. above floor; the second section (in front of stela), 1.22×0.7 m., rises 0.29 m. above floor; the northern section, 0.35×0.7 m., is divided in two parts of which the eastern rises 0.08 m. and the western 0.15 m. above the floor; entered from room (b), by doorway in the east wall opposite that room.
- (b) built in NE quarter of original room (a) and extending northwards east of room (c); vestibule corridor; 4.16×1.05 m.; area, 4.36 sq. m.; three doorways; entered from east by doorway in north end of east wall; doorway to (c) in northern part of west wall; doorway to room (a), near the middle of the west wall opening in room (a) near its northern end; originally there was an entrance doorway in the south end of the east wall, but this was blocked up when the small mastaba G 1210 was built.
- (c) magazine north of (a) and west of the northern part of (b): 1.65×1.45 m.; area, 2.39 sq. m.; entered by doorway from east from room (b).

Total floor area of rooms (a), (b), (c), 16.22 sq. m.

Construction of Chapel: the only wall which can be assigned to the original chapel is the west wall, 0.65 m. wide, resting on and covering five courses of the mastaba; around this west wall I would reconstruct a well-built c.b. chapel of type (1 a) similar to that of G 1203; this chapel was destroyed or decayed and after the building of G 1206 was rebuilt with thin c.b. walls, about 0.3 m. thick, in the following order:

- (1) South wall, fitted against the south end of the old west wall and over a small mastaba of rubble: ran continuously to SE corner of chapel and then northwards to the south end of G 1206; this wall had one doorway opening to east at 3.07 m. from the SE corner.
- (2) The vestibule (b) was formed by building its south and west walls; probably at the same time the south wall of room (c), 0.3 m. thick.
- (3) The south wall of (c) was reconstructed with a strengthening wall, 0.15 m. thick.
- (4) A new doorway was cut in the north end of the east wall opening to the east; the older doorway in this wall was blocked when the small mastaba G 1210 was built against the wall. The thickness of the west wall indicates that the original chapel was roofed with a leaning-course c.b. vault (as G 1203), but the walls of the rebuilt chapel were too thin and could have been roofed only with wood; the max. height of the old west wall, as preserved, was 2.04 m.; the other walls are preserved in places to nearly the same height.

Slab-stela: found in place bound with plaster; 50.8 cm. long, 38 cm. high, and 8.2 cm. thick; fine low relief with mere traces of colour. Nofert seated facing to right at table of bread (loaves as early convention); lappet wig, long tunic; bracelets; right hand extended and left open on right breast; under the table on the left a small ideographic list (linen and ointment) and on the right a blank space; above, in front of the face written vertically, *khh*-vase, ewer and basin (*ir*), and *bd* (natron) *tr* 3; to the right of these signs, above the bread, are four vertical lines containing a short list of offerings separated by vertical lines in relief: (1) *ir*, *sntr*, *wjdw*; (2) *msdmt*, *trp*; (3) *nbs*, *tr nbs*, *isd*; (4) *wch*, *shwt-wjdt*: on right side, full linen list with four kinds of linen; over the head, separated by a horizontal line in relief, *rht nswt Nfr(t)*.

Shaft: one shaft in the position of the shaft in a one-shaft mastaba, north of middle of mastaba; 2.1×2.05 m. at top of masonry and 1.8×1.85 m. at rock-surface; the rock-cut shaft is of same size, contracts to 1.8×1.52 m. at bottom; -9.9 m. deep in rock; lined above with drab masonry, 2.95 m., eight courses (averaging 37 cm.); rock ledge in east wall of shaft (0.3 m. wide) at 1.07 m. above the bottom.

Chamber: type 1 al; lined with white limestone; on south, lined chamber 2.7×3.2 m. and 2.21 m. high; area, 8.64 sq. m.; capacity, 19.14 cub. m.; rock chamber, 3.65×4.4 m. and 2.46 m. high; area, 16.06 sq. m.; capacity, 39.5 cub. m.; pavement irregular.

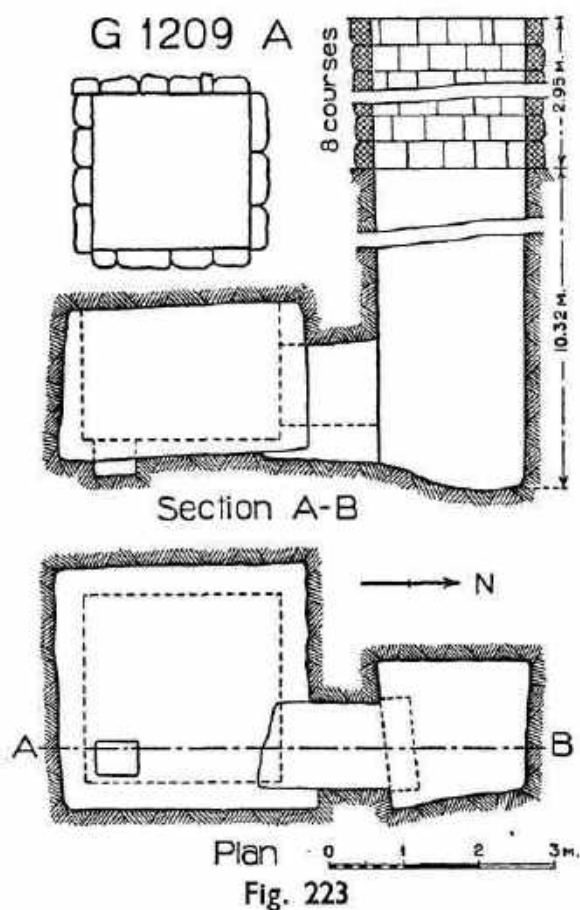
Passage: rock-cut, 1.9×1.05 m. and 1.2 m. high; extended, by opening in lining of chamber, to 2.27 m. long; step down from floor of passage to floor of pavement 0.8 m., and 1.05 m. to rock.

Blocking not preserved.

Coffin: no trace.

Canopic pit in SE corner: 0.6×0.52 m., cut through pavement; in rock, 0.36×0.37 m., about 0.3 m. deep, leaving a ledge.

Lining and pavement: lining preserved to top of two courses on north, east, and south, and to top of first course on west; pavement partly broken; red construction lines on walls and ceiling marking the thickness of the lining walls, and across the ceiling a line marking the middle of doorway (used in cutting the rock chamber).



Objects found in chamber:

(1) Flint: flake; length, 9.8 cm.

Later Constructions and Intrusions: the important alteration was made when mastaba G 1206 was constructed against the east face of G 1207 north of the place of the present c.b. chapel; leaving a N-S passage along the back of G 1205; the owner was probably connected with the family or the funerary service of Nofert, owner of G 1207: the owner of G 1206 was ancestor of the persons who built G 1204 (between G 1203 and G 1205) and G 1208 between (G 1207 and G 1209).

Against the east face of the chapel was built the small mastaba G 1210.

G 1209: western and last core-mastaba in southern row; normal size.

See Map 4 and Figs. 100 (chapel), 35, 223 (shaft), 224 (objects).

See Pl. 14 a.

Name: no name found.

Mastaba: type II a; 24.15×10.67 m. (10.35 m. at south and 11.0 m. on north); area, 257.68 sq. m.; prop. $1/2.26$; max. height, 5.0 m.; retaining wall of z-masonry of drab limestone resembling G 1207; filled with gravel and rubbish; uncased; ten courses on south and nine courses on north; lowest course on south becomes third course

at NE corner and the fourth at NW corner; average height of courses, 38 cm.; average width of steps, 10.2 cm.; angle of batter, 75 degrees 36 minutes.

Chapel: exterior c.b. chapel of type (1 a) against south end of east face of mastaba; centres on niche on west wall in which the stepped face of the mastaba is exposed but contains no slab-stela or emplacement of such a stela; outside measurements of chapel as preserved, 4.5×3.6 m. with an area of 16.2 sq. m.; begins at 1.9 m. from SE corner of mastaba; has been altered and reconstructed and now consists of two rooms:

- (a) originally a N-S offering-room, 3.9×2.7 m. with area of 10.53 sq. m.; but after the construction of vestibule (b) in NE quarter the floor area was reduced to 8.42 sq. m.; with usual wide niche near south end of west wall but without slab-stela; doorway into (b) in north end of bent east wall; doorway in west end of north wall opening northwards into passage between G 1209 and G 1208.
- (b) small vestibule built later in NE corner of room (a); 1.55×0.75 m.; area, 1.16 sq. m.; entered from east from outside by doorway in south end of west wall; doorway to (a), in north end of west wall.

Total area of (a), (b), 9.58 sq. m.

Construction of Chapel: the west wall with niche, 0.6 m. thick, resting on lowest five courses of mastaba, belonged apparently to the original chapel; as preserved the wall is 4.5 m. long; the later south wall is built against the south end of this wall and the later north wall against its east face at the north end; the original chapel was

probably like that of G 1203 with open court on north, and the remains of a c.b. cross-wall in the passage north of the chapel belonged to this old chapel; the present chapel was constructed at one operation with walls 0.35 m. thick, including south, east, and north walls of room (a) and the south and west walls of room (b); the walls are 0.35 m. thick except the north wall of (a) (0.25 m. thick); the present chapel was built before G 1208 and certainly before G 1208-annex; its doorway opened to east; after the construction of the secondary mastabas the doorway opening northwards was cut.

Shaft: one shaft in north end of mastaba in the position of the second shaft in the two-shaft mastaba; but there was

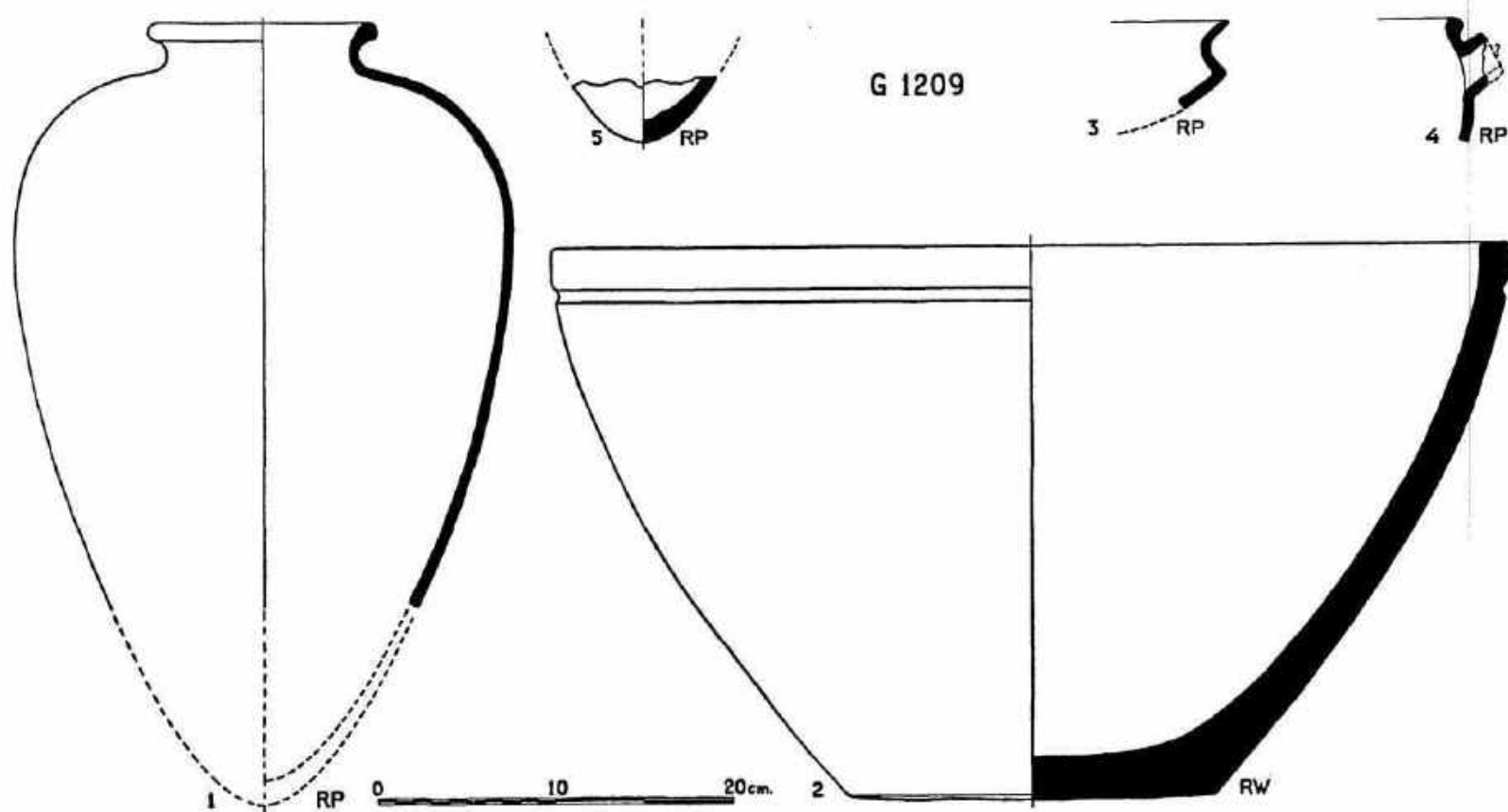


Fig. 224

no other shaft, as proved by persistent trenching; 2.05 × 2.07 m.; — 10.32 m. in rock; lined above with drab masonry, 2.95 m., eight courses.

Chamber: type 1 bf, lined; on south; lined chamber, 2.64 × 2.5 m. and 1.75 m. high; area, 6.6 sq. m.; capacity, 11.55 cub. m.; rock chamber, 3.34 × 3.22 m. and 2.0 m. high; area, 10.75 sq. m.; capacity, 21.5 cub. m.

Passage: rock-cut, 1.02 × 1.12 and 1.58 m. high; extended by opening through lining to 1.42 m. long; floor of passage apparently paved with white limestone as chamber, making height of passage about 1.1 m.

Blocking: interior blocking removed; portcullis slab in shaft, 1.24 m. wide and 0.38 m. thick, broken; type I b.

Canopic pit: in SE corner; 0.56 × 0.45 m. and — 0.2 m. in rock; pavement removed.

Lining and pavement: white limestone; lining nearly entirely removed but leaving plaster marks on rock walls; pavement entirely removed.

Objects found in debris:

- (1) RP: frags. of shoulder jar with short neck and roll rim, round bottom; type A-III; h. 40 cm.; d. shoulder, 28 cm.; d. base, 10 cm.; d. rim, 12 cm. See Fig. 224.
- (2) RW: red wash; large flat-bottomed basin, type D-LXXI a; flat moulded rim; h. 31 cm.; d. rim, 54 cm.; d. base, 20 cm. See Fig. 224.
- (3) RP: frag. bowl with recurved rim; type C-XXXII or D-XXXVI. See Fig. 224.

(4) RP: frags. large flat-bottomed basin with tubular spout; type D-XXXV; h. 46 cm.; d. rim, 54 cm.; d. base, c. 20 cm. See Fig. 224.

(5) DbW: hard fine pink drab; bottom of large jar of type II b. See Fig. 224.

Later Construction and Intrusions: the important later construction is the mastaba G 1208 with annex added on south; this is built in the street between G 1207 and G 1209, against the west wall of G 1207; west of G 1209 is the secondary cemetery G 1400.

G 1210: a small mastaba intruded in chapel of G 1207.

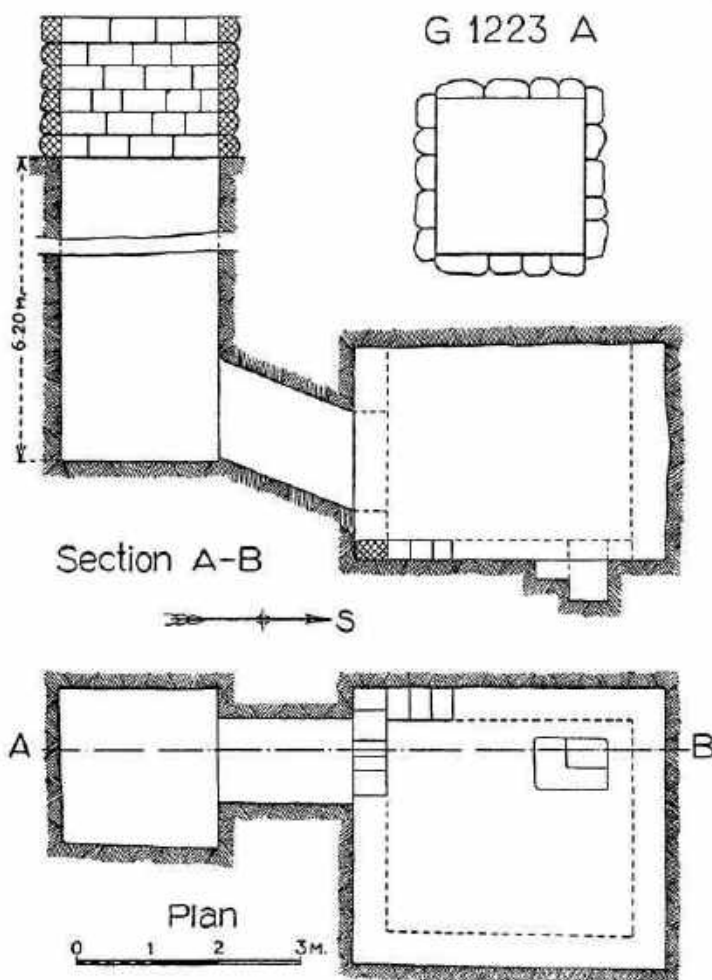


Fig. 225

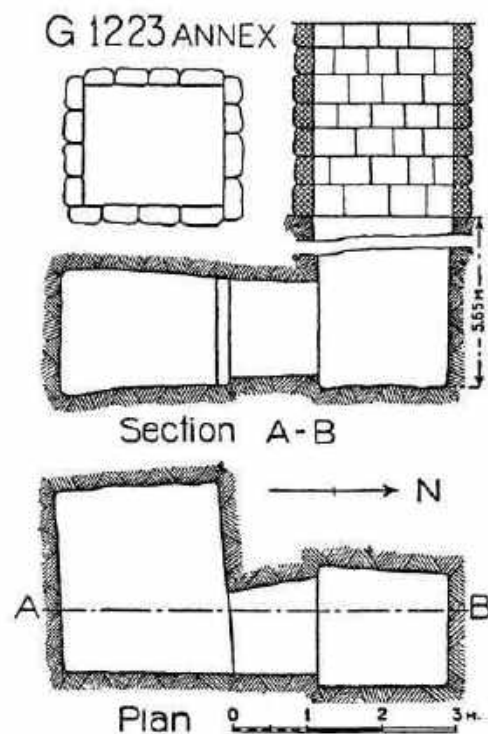


Fig. 226

G 1211-1220: small mastabas intruded in the avenue between the southern row and the middle row of the nucleus cemetery; begins with G 1211 north of G 1209 and ends with G 1220 between G 1223 and G 1203; continued eastwards by small matabas, numbered G 1321, G 1320, G 1311-1314.

G 1221: a c.b. mastaba on independent site north of G 1201 and east of G 1223, not belonging to the nucleus cemetery, but built later.

G 1223: first mastaba core in middle row of cemetery, north of G 1203; easternmost core in middle row.

See Map 4 and Figs. 16 (mastaba), 111 (chapel), 33, 225 (shaft), 227 a (objects), 226 (annex shaft), 227 b (annex pottery).

See Pls. 14 b-f, 15 a, 19 a, 23 a, b.

Name: Ka-m-aha, *imy rj ssw šmꜣw, wr md šmꜣw, sꜣ nšwt*.

Mastaba: core-mastaba of type II a; 24.55 × 11.15 m.; area, 273.73 sq. m.; prop. 1/2-2; retaining wall of z-masonry, stepped courses of drab limestone; rock slopes to north; height on south, 4.95 m. (13 courses) and on north, 5.7 m. (15 courses); lowest course on south became course 2 on the north; average height of stepped courses, 26.1 cm.; general batter of retaining wall, 74 degrees 45 minutes; average width of steps, 10.5 cm.

Increased in length by the addition of an annex containing one shaft on the north; 4.6×11.15 m.; area, 51.29 sq. m.; the retaining wall is like that of the core and the courses continue with the same levels; the core thus lengthened measured 29.15×11.15 m.; area, 325.02 sq. m.; prop. 1/2.61.

Slab-stela, set with plaster in east face of core at 4.35–4.92 m. from SE corner of core.

Mastaba enlarged by addition of core-work of type IV iii, wide on east and narrow on south and west; the enlarged mastaba was being cased with fine white limestone (y-masonry) on all four sides, including the north end of the annex; the addition on the east had a chapel recess and a chapel of white limestone was being constructed in this recess; this enlargement was not finished; final size, 31.1×17.5 m.; area, 433.25 sq. m.; prop. 1/1.77; the casing on the north was built over the lower courses of the north end of G 1223-annex and those of the south end of G 1233; on the west the casing interfered with the casing of the enlarged core-work of G 1225.

Chapel: the presence of the slab-stela suggests that originally an exterior c.b. chapel of type (1 a) was designed and may have existed; if it existed, it was destroyed when the mastaba was enlarged.

Chapel (2): interior offering-room of type (3 a) of white limestone built in recess in additional core-work of type IV iii; bonded with unfinished white casing; 4.25×1.55 m.; area, 6.59 sq. m.; relation 1/65.74; proportion 1/2.74; walls formed by upright slabs with a max. height of 2.1 m. (north wall); only one slab is preserved in the west wall (north end) but, without doubt, a niche was cut in a slab near the south end; the floor was paved with stones, 0.45 m. higher than the floor outside; three steps lead down from doorway of offering-room to floor outside, with rises of 20, 15, and 10 cm. (from top to bottom); offering-room entered by doorway in north end of east wall; the walls were probably continued above the slabs with masonry and a slab roof; but no decoration was carved as far as preserved.

Chapel (3): exterior c.b. chapel built around the doorway to the offering-room of type (3 a); repeatedly altered; consisted of five or more rooms:

- (b) court around entrance to offering-room (a); originally 8.08×3.35 m., with an area of 27.17 sq. m.; the c.b. walls were 0.52 m. thick; the south wall has been cut away by an intrusive addition to mastaba G 1224 (pits marked U and Z); this intrusion was marked off by a thin c.b. wall; on the north other partly preserved c.b. walls were introduced; thus room (b) was reduced to 5.3×3.25 m., with an area of 17.23 sq. m.; with two doorways, one in north end of east wall and the other in the east end of north wall; in SE corner of reduced room stands a rectangular offering-basin, 1.275×1.1 m.
- (c) E-W vestibule room around the eastern doorway of (b); walls bonded with east wall of (b) but thinner (51–48 cm. thick); 1.25×2.25 m.; area, 2.81 sq. m.; with three doorways: doorway opening northwards in east end of north wall, with stone kerb for door-post on east inside; doorway to (b), in middle of west wall; doorway to room (d) in west end of south wall.
- (d) south of (c) was originally a large room (e) in the NW quarter of which was later built the small N-S room (d); 2.075×1.4 m.; area, 2.9 sq. m.; entered from north from room (c) by doorway in west end of north wall; doorway to (e), in north end of east wall, later blocked by c.b.; south wall not fully preserved.
- (e) large N-S room south of (c), in which room (d) was constructed later; original size, 4.35×3.0 m. with area of 13.05 sq. m.; by construction of (d) floor area reduced to about 7.8 sq. m.; the SE corner of the room is denuded away, and the connexion with another room on south is obscure.

Other rooms south of (b) and (e) have been partly denuded away and partly overbuilt by G 1224; north of (b) and (c) were probably other rooms, and certainly an open court, but this area has been overbuilt by G 1308–1310.

Total area of (b)–(e) as preserved, 40.68 sq. m. (certainly less than original floor).

Probably it was intended to cut an offering-niche in the white casing opposite the annex.

Slab-stela: found in place in emplacement in east face of core; bound with plaster; with weathered line from right-hand top to left-hand bottom: Ka-m-aha seated facing to right at table of bread; arms, shoulders, and torso obliterated; short close wig and long robe; under the table ideographic list with *šš*-ointment and *mnht* on left, and on right, bread, beer, head of oryx, and head of bull; above the table the surface is obliterated, but the space is to be reconstructed with *kbh*, ewer and basin (*tr*) in front of face, and with a short list of offerings above the bread (the word *sntr* is visible); to the right is a full linen list, apparently four kinds

of linen; across the top of the whole stela (over linen list, table, and seated figure) runs a horizontal line of inscriptions badly weathered, *imy-rj ssw šmꜣw, wr md šmꜣw, sꜣ nšwt Kꜣ-m-ꜣh*.

Shafts in G 1223: the original core had one shaft in the position of the shaft in the one-shaft mastaba (north of middle); the annex added on the north contained a second shaft.

Shaft A: 2.0 × 2.05 m.; -6.2 m. in rock; lined above with drab masonry, 1.85 m.; 6 courses (upper part destroyed).

Chamber: type 1 brnx; lined with smooth white limestone; on south; lined chamber, 3.27 × 2.82 m. and 2.6 m. high; area, 9.22 sq. m.; capacity, 24.97 cub. m.; rock chamber, 4.15 × 3.7 m. and 2.84 m. high; area, 15.35 sq. m.; capacity, 43.59 cub. m.

Passage: rock-cut sloping passage, horizontal length, 1.77 × 1.13 m.; height at right angles to slope, 1.22 m.; passage prolonged horizontally through lining, 0.45 m.; opening in east end of north wall, 0.65 m. above rock floor.

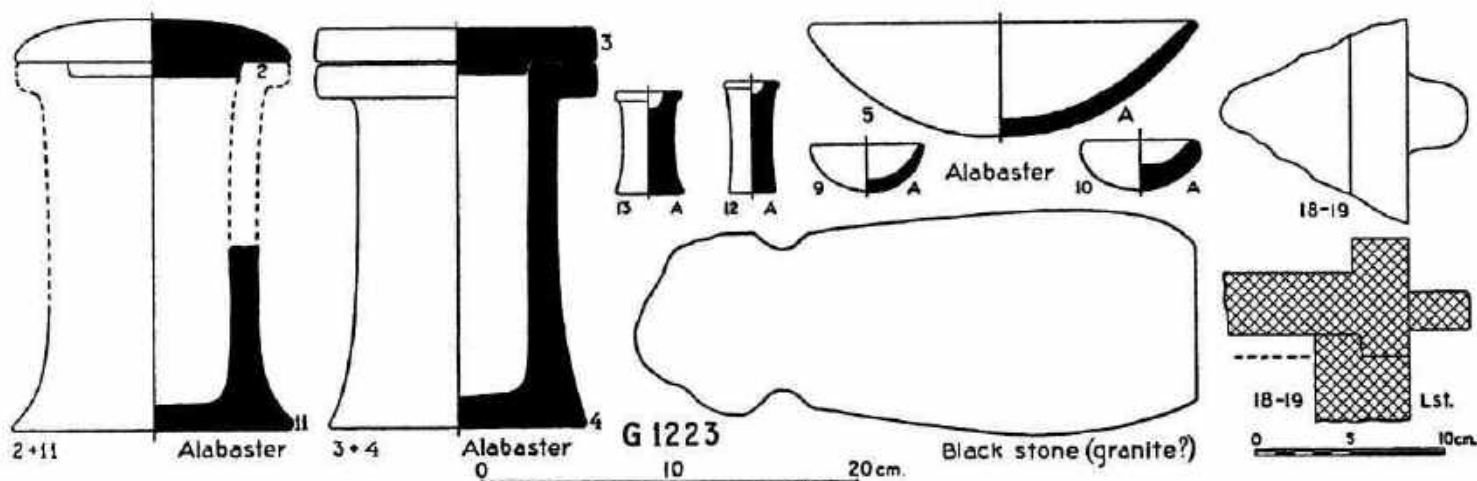


Fig. 227 a

Blocking: remains of interior blocking removed (probably masonry set in plaster); outside a portcullis slab of which frags. were found in debris of shaft; type I b.

Coffin: frags. of smooth white limestone coffin with flat lid (type d); found scattered in bottom of shaft and in chamber.

Canopic pit: in SE corner; cut in rock (pavement removed) to two levels; upper level, 0.98 × 0.65 m. and 0.24 m. deep (or 0.48 m. adding pavement); in the SE corner of this upper pit was cut a smaller, 0.54 × 0.38 m. and 0.52 m. deep (0.76 m. adding the pavement).

Lining and pavement: constructed as in G 1203, but almost entirely removed.

Objects found in debris in shaft and chamber:

- (1) Copper: frag. model chisel.
- (2) Alab.: dome jar lid; d. 15 cm. See Fig. 227 a.
- (3) Alab.: disk lid of cyl. jar; d. 15 cm. See Fig. 227 a.
- (4) Alab.: frag. cyl. jar of type I d; h. 20 cm. See Fig. 227 a.
- (5) Alab.: frags. round-bottomed shallow bowl with plain rim: type S IX; h. 5.0 cm.; d. 21 cm. See Fig. 227 a.
- (6) Alab.: frag. from rim of large basin, with low recurved rim, type S XI; max. h. 18 cm.
- (7) Alab.: frag. flat-bottomed bowl, type S X; part of base; d. base, 10 cm.
- (8) Copper: small frag. of copper plate.
- (9) Alab.: model round-bottomed bowl, type S IX; d. 6 cm. See Fig. 227 a.
- (10) Alab.: frag. model bowl of type S IX; d. 6.0 cm. See Fig. 227 a.
- (11) Alab.: base of jar of type S I d; d. 13 cm. See Fig. 227 a.
- (12) Alab.: dummy model cyl. jar, type S I d; h. 6 cm. See Fig. 227 a.
- (13) Alab.: dummy model cyl. jar, type S I d; h. 5.5 cm.; d. rim, 2.8 cm.; d. base, 2.4 cm. See Fig. 227 a.

- (14) Black stone (granite?): two large hammer-stones with groove around butt end for attaching handle; (a) well formed, with length of 30 cm.; (b) rough and bruised. See Fig. 227 a.
- (15) White limestone: lining block, 44.5 × 29.5 × 19 cm.; incised on two sides with a quarry mark.
- (16) Hard stone: hammer-like stone coated with plaster: length, 27.5 cm.
- (18-19) Frags. of white limestone coffin and lid: edge of box with rebate on outside and lid rabbeted on under-side to fit rabbeting of box; two handles on ends of lid; thickness of walls of box, 12.3 cm. See Fig. 227 a.
- Shaft 1223-annex: shaft A; probably burial-place of wife of Prince Ka-m-aha: near centre of annex; 1.85 × 1.6 m.; 5.65 m. in rock; lined above on all four sides with drab masonry, 2.56, 7 courses (average h. of course, 36.5 m).
- Chamber: type 4 a (1); on south; 2.2 × 2.45 m.; and 1.54 m. high; area, 5.39 sq. m.; capacity, 8.3 cu. m.
- Passage: horizontal: 1.14 × 1.16 m. and 1.26 m. high; with step down from floor of passage to floor of chamber, 0.12 m.
- Blocking: removed, but in debris 18 rough stones obviously from an interior blocking of type II b.
- Completely plundered: no objects found; a large number of pottery vessels was found thrown out in and over a shaft, G 1223 annex-X, situated between the retaining wall of G 1223-annex and the south end of G 1223, intruded between two casing stones of G 1223; this pit is close beside G 1223-annex shaft A, and it is probable that these vessels came from G 1223-annex shaft A. See Fig. 227 b.

Objects: found in G 1223 annex-X and assigned to shaft G 1223-annex; shaft G 1223 annex-X measured 1.15 × 1.0 m.; in debris, 1.8 m. deep; no chamber; no burial.

34-10-1, 3 to 5: DbW; bent-sided, round-bottomed bowls with plain rim and lip spout; 4 examples; type C-XXX d.

	H.	D. rim	Width	D. bend	H. upper part
(1)	8.0 cm.	21.0 cm.	24.4 cm.	19.8 cm.	3.6 cm.
(3)	9.0 cm.	22.8 cm.	23.6 cm.	18.6 cm.	4.2 cm.
(4)	8.4 cm.	22.5 cm.	24.2 cm.	18.4 cm.	4.2 cm.
(5)	8.1 cm.	22.0 cm.	22.6 cm.	16.6 cm.	3.8 cm.

Photo. B 8360

34-10-6 to 10, 19, 20: RW, red wash; bent-sided, round-bottomed bowls, with plain rim; type C XXX a; 7 examples.

	H.	D. rim.	D. bend	H. upper part
(6)	15.2 cm.	32.0 cm.	27.2 cm.	5.8 cm.
(7)	15.8 cm.	29.2 cm.	24.3 cm.	6.8 cm.
(8)	12.2 cm.	28.4 cm.	22.0 cm.	5.0 cm.
(9)	10.2 cm.	30.0 cm.	24.4 cm.	5.0 cm.
(10)	12.0 cm.	28.8 cm.	25.2 cm.	5.4 cm.
(19)	5.7 cm.	23.1 cm.	19.6 cm.	2.0 cm.
(20)	5.8 cm.	24.6 cm.	22.0 cm.	1.8 cm.

Photo. B 8360.

34-10-2, 11 to 18: RP: round-bottomed bowls with recurved rim; type C-XXXII a; 9 examples:

	H.	D. rim	D. body
(2)	8.5 cm.	28.2 cm.	27.2 cm.
(11)	8.2 cm.	21.7 cm.	22.0 cm.
(12)	9.7 cm.	22.6 cm.	23.2 cm.
(13)	8.7 cm.	21.8 cm.	22.0 cm.
(14)	8.3 cm.	21.0 cm.	22.2 cm.
(15)	8.4 cm.	20.9 cm.	22.0 cm.
(16)	8.3 cm.	22.4 cm.	22.4 cm.
(17)	8.2 cm.	22.4 cm.	22.4 cm.
(18)	9.0 cm.	23.5 cm.	24.2 cm.

Photo. B 8358.

34-10-21: linen; basket of frags. of mummy wrappings.

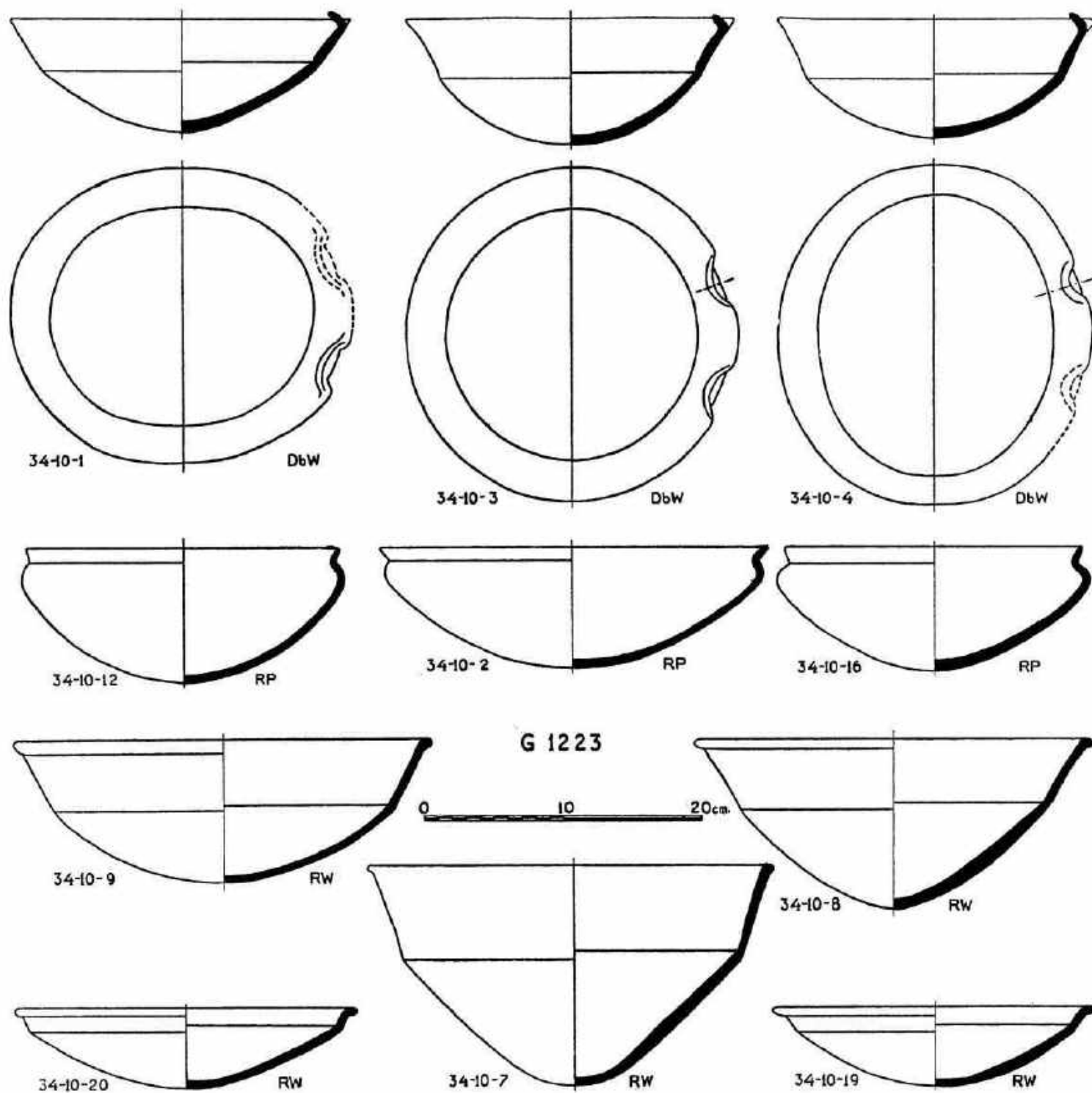


Fig. 227 b

Later Constructions and Intrusions: against the east face of the unfinished lining of G 1223, and partly over the northwards extension of the c.b. chapel, were built three small mastabas, G 1308-1310, from north to south. Against the south end of the exterior c.b. chapel was built G 1224+1311 with additional shafts intruded in south end of chapel.

In the space between G 1223 and G 1233 was intruded the shaft G 1223-annex-X.

G 1225: second core in the middle row, west of 1223: normal size.

See Map 4 and Figs. 60, 61 (red lines in shaft), 200 (S. *ka*-door), 201 (N. *ka*-door), 228 (E-W section through annex chapel), 229 (shaft A), 230 (annex shaft), 231 (objects).

See Pls. 15 b-f, 19 b, 23 c, d.

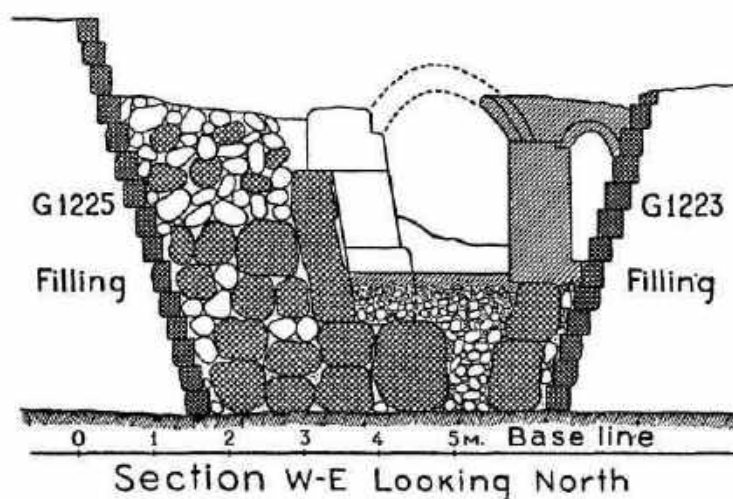


Fig. 228

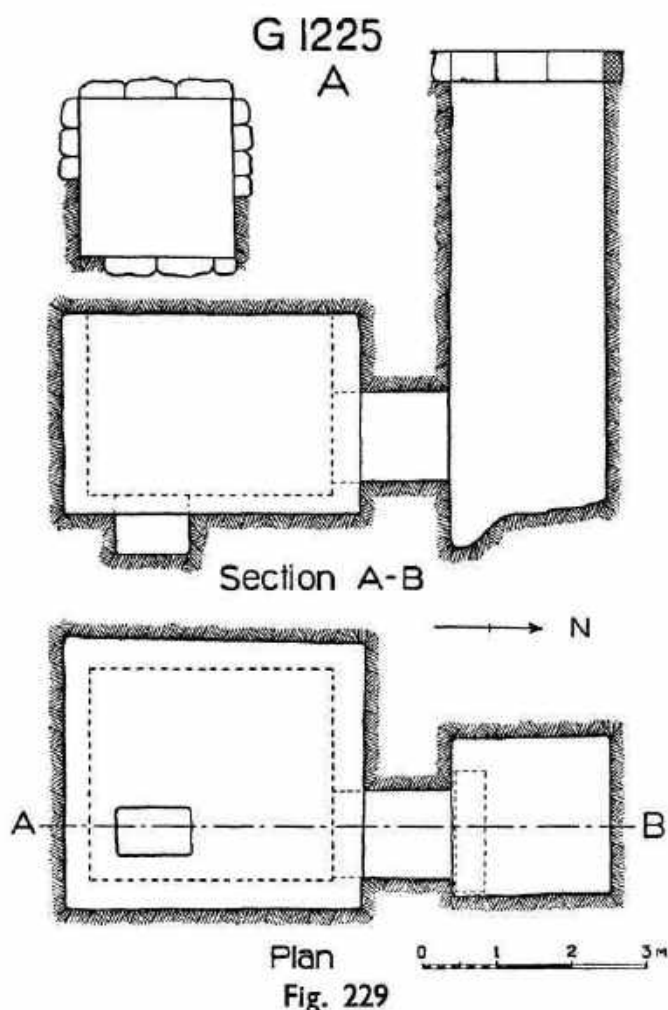


Fig. 229

Name: Nefert-yabet, *sst nswt*.

Mastaba: core-mastaba of type II a; 24.25×11.05 m. (10.8 on south, 11.3 on north); area, 267.96 sq. m.; prop. $1/2.19$; retaining wall of z-masonry, stepped courses of drab limestone; rock sloped to north; 10 courses on south and 11 courses on north; lowest course on south became course 4 on north; average height of stepped courses, 0.37 m.; general batter of retaining wall, 7.2 degrees 52 minutes; average width of steps, 10.2 cm. Increased in length by the addition of an annex containing one shaft, on the north, 4.8×11.4 m.; area, 54.72 sq. m.; retaining wall like that of the core and the courses continue with the same levels; the core thus lengthened measured 29.05×11.1 m; area, 322.47 sq. m.; prop. $1/2.61$.

Slab-stela: fixed in east face of core towards SE corner; removed by Mr. Ballard in 1901-2, who broke away the wall in which the emplacement was cut.

Mastaba enlarged by addition of corework of type IV-iii; on east where a recess was left for interior chapel; enlarged mastaba in process of casing with white limestone (y-masonry) on all four sides: in the recess in the

massive addition, a chapel had been begun of white limestone, bonded with the casing, but left unfinished; final size as designed, 30.8×16.0 m.; area, 492.8 sq. m.; prop. 1/1.9; the casing of G 1225 interfered with the casing of the back of G 1223.

Chapel: the presence of the slab-stela found by Mr. Ballard suggests that originally a c.b. chapel of type (1 a) was designed and may have been built, but no trace remains.

Chapel (2): interior offering-room of type (3 a), of white limestone begun in chapel recess of massive addition but unfinished; being constructed of upright slabs as in G 1223; one slab had been set in the north wall and three in the west wall; the southern slab (third slab) contained the *ka*-door (inner niche and drum, back of outer niche and crossbar) and would have been set back in a recess in the west wall, but we found it displaced

by Mr. Ballard; it was impossible to determine the final size of the offering-room.

Chapel (3): the unfinished interior chapel was finished with c.b. walls found by us nearly destroyed; the incomplete west wall of the stone chapel was completed with c.b. to the south (0.35 m. thick) but not bonded with the south wall; the south wall of the same width ran eastwards from the SE corner of the mastaba 3.0 m., where it turned northwards (0.21 m. thick); the offering-room as thus completed appeared to be 5.92×2.1 m.; area, 12.43 sq. m.; prop. 1/2.81; entered by doorway in south end of east wall; beginning at 1.1 m. from inside wall of c.b. chapel; the old niche cut in slab was north of the middle of the room; outside on the east, an irregular corridor was built later with its east wall built of rubble (filled in behind with rubbish to top of unfinished casing of G 1223); north of this corridor the casings of G 1223 and G 1225 were in contact and made a passage to the annex chapel very difficult; nevertheless there was certainly a path over the stones to the subsidiary northern chapel in front of the annex the door of which opened to the south.

Subsidiary north niche and chapel of annex: in the white casing of the enlarged mastaba, opposite the annex, a monolith representing a *ka*-door was set back in a recess in the casing; recess, 1.3×0.7 m.; the monolith was broken off above but was of the traditional form.

N-S offering-room of c.b. constructed round the stone offering niche; 3.55×1.45 m.; area, 5.14 sq. m.; prop. 1/2.4; roofed with a leaning course c.b. vault of which the lower part was preserved above the east wall; thickness of east wall, 0.8 m.; this wall was built on the unfinished casing of G 1223 and was strengthened on the east by a subsidiary leaning course c.b. vault covering the space between the east wall and retaining wall of the core of G 1223; at the top the width of this space was 0.57 m.

The north wall was apparently built first, closing the street between the core of G 1223 and the unfinished casing of G 1225; north wall, 0.75 m. thick and against it was built the east wall and the two vaults; the south wall was bonded with the east wall and contained a doorway in the east end opening to south, with door embrasure on inside.

Slab-stela: found in place set in west wall of core near south end and removed by Mr. Ballard; finely carved with colours well preserved; now in the Curtis collection in Paris. Nefert-yabet seated facing to right at table of bread; lappet wig and long panther skin garment; with right hand extended to table and left hand open on right breast; under the table an ideographic list, with linen and ointment on left, and on right, bread, beer, oryx, and bull; above the bread is a short list of offerings contained in rectangular compartment in two horizontal lines separated by horizontal lines in relief: words written vertically, signs facing left, (1) *sntr*, *hst-t*, *wrd*, *msdmt*, *db*, *isd*; (2) *shpt*, *irp*, *nb*, *ti*, *nb*, *wch*: in front of face, *kbh*-vase, a small picture list running between short list and bread, *ir*-sign, haunch of beef, a joint of beef, and a basket with three pellets above it, and a bird: to the right of the table and lists is a linen list (old compartment list) with three kinds of linen; over woman's head, horizontally to left of short list, *srt nswt Nfrt-ib*. See Pl. 19 b.

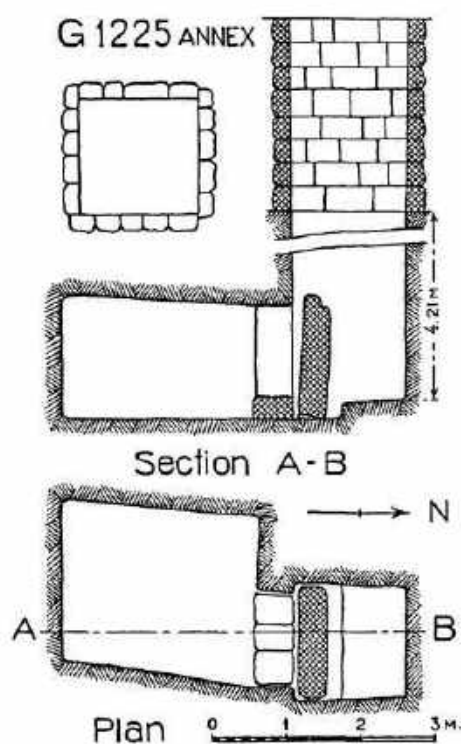


Fig. 230

Shafts in G 1225: chief shaft A in original core in the position of the shaft in the one-shaft mastaba, north of middle; in the annex on the north, a secondary shaft.

Shaft A: burial-place of Princess Nefert-yabet; 2.08×2.08 m.; -5.5 m.; in rock; lined above with drab masonry but only one course was preserved in place, 0.37 m. high.

Chamber: type 1 bl, lined and paved; on south; 3.24×2.81 m. and 2.4 m. high; area, 9.0 sq. m.; capacity, 21.6 cu. m.; rock chamber, 3.98×3.55 m. and 2.65 m. high; area, 14.02 sq. m.; capacity, 37.15 cu. m.

Passage: horizontal, opening at east end of north wall of lined chamber low down in wall; rock-cut, 1.2×1.2 m. and 1.18 m. high; length to inside lining, 1.57 m.; step down from floor of passage to floor of pavement, 0.15 m., and to rock, 0.4 m.

Blocking: certainly of type I b, but the interior masonry had been entirely removed and only one large fragment was found of the portcullis slab.

Coffin: frags. of white limestone coffin with flat lid, type (d).

Canopic pit: in SE corner, cut in rock (pavement removed); 1.0×0.65 m. and 0.53 m. deep; 0.77 m. from top of pavement.

Lining and pavement: lining and pavement removed except for one large block from over the doorway; the lines of plaster on the walls showed nine courses of lining and a pavement; the large roofing-block from over the doorway measured $2.02 \times 0.55 \times 0.4$ m., smoothly dressed on one side; block partly sawn through in three places by the stone thieves; ordinary courses of lining about 25 cm. high; red construction lines on walls and ceiling. (See Fig. 61.)

Objects found in debris of shaft G 1225 A:

(1) Flint: flake; simplified form of round-ended razor; length, 6.5 cm.; max. w. 1.8 cm.; thickness, 0.6 cm. See Fig. 231.

(2) Copper: frag. model chisel (?).

(3) Alab.: model round-bottomed bowl; type S IX; h. 2.4 cm.; d. 6.7 cm. See Fig. 231.

(4) RP: frag. recurved rim; probably type D-XXXVI b. See Fig. 231.

(5) RP: round-bottomed bowl with internal moulding; type C-LXV; h. 5.5 cm.; d. 24 cm. See Fig. 231.

(6) RW: red wash: basin with roll rim and tubular spout; type XXXV; h. 31.5 cm.; d. rim, 35 cm.; d. max. 38 cm.; d. base, 16 cm.; width with spout, 40 cm. See Fig. 231.

(7) WSR: frag. top of large jar; type A II-b; h. c. 35 cm.; d. rim, 10 cm.; d. body, c. 24 cm. See Fig. 231.

(8) WSR: frags. of several other jars of type II b.

(9) RBrW: red wash: frags. of bowl with recurved rim, probably type D-XXXVI; h. c. 25 cm.; d. over 30 cm. See Fig. 231.

(10) RW: red wash: frags. basin of type D-XXXV (see No. 6). See Fig. 231.

(11) WSR: frags. of jar of type A-II b (see Nos. 7 and 8 above).

(12) Mud ware: large tub: type LXXI a; h. c. 50 cm.; d. rim, c. 80 ; d. base, 30 cm. See Fig. 231.

Shaft G 1225-annex: shaft A: 1.5×1.5 m.: -4.21 m. in rock; lined above with drab masonry, 2.56 m., eight courses; in the rock floor on south a rock trench is cut the full width of the shaft, 0.65 m. wide and 0.24 m. deep, in which rested the lower end of a portcullis slab.

Chamber: type 4 b (1); on south; 2.6×2.2 m., and 1.58 m. high; area, 5.72 sq. m.; capacity, 9.03 cu. m.; walls repaired with plaster.

Passage: 0.54×1.28 m. and 1.5 m. high.

Blocking: type I b; interior blocking of white blocks set in plaster, of which one course remained in place and the plaster marks showed a total of five courses; outside portcullis slab, 1.62 m. high, 1.48 m. wide, and 0.38 m. thick; found slightly displaced (leaning to north).

Completely plundered.

Objects found in debris of chamber.

32-3-1: Alab.: frag. base of cyl. jar, type S-I d; h. 6 cm.; d. base, 15 cm.; probably intrusive.

Later Construction and Intrusions: in the avenue between G 1225 and G 1205 were three small mastabas G 1218, G 1219, and G 1220, all built against the south end of the casing of G 1225 or its c.b. chapel: on the north, the space between G 1225-annex and G 1235 was too narrow to admit any later constructions.

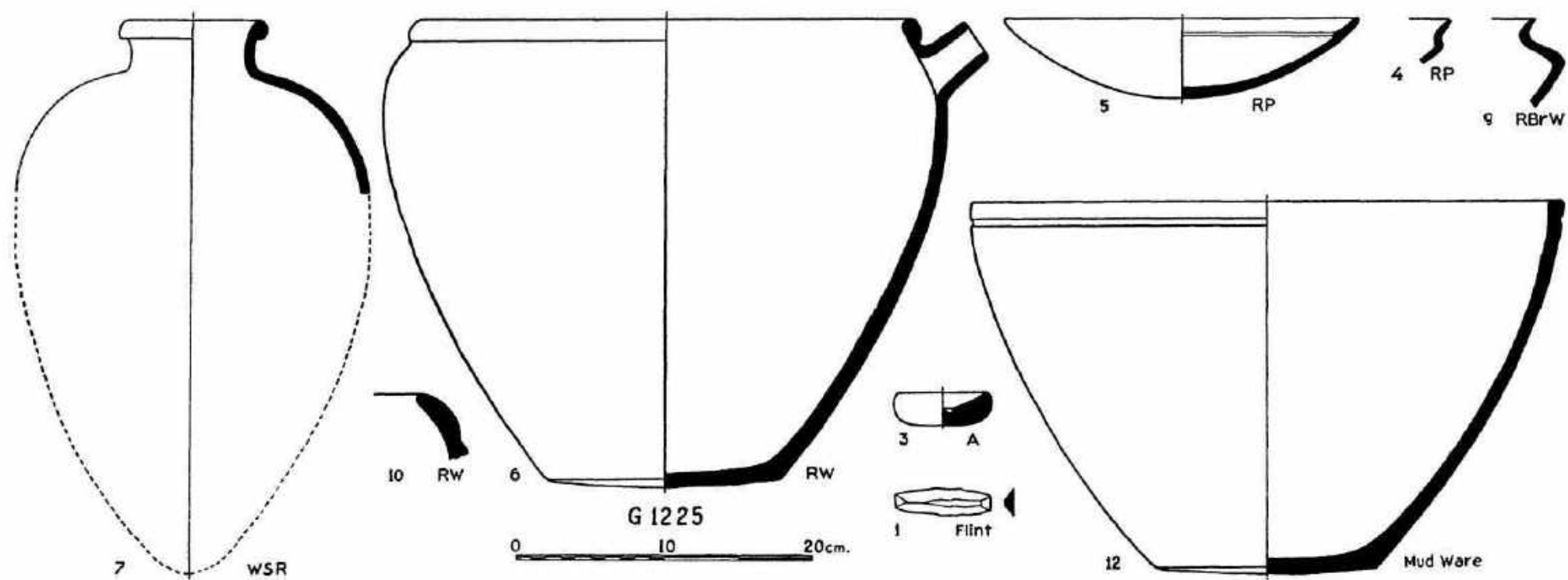


Fig. 231

G 1227: third and last core in middle row: of normal size.

See Map 4 and Figs. 32 (shaft, section doorway), 232 (shaft).

See Pls. 16 a-d, 20 a, 23 e.

Name: Sethy-hekenet, *rht nswt*.

Mastaba: core-mastaba of type II a uncased; 24.20×11.2 m.; area, 271.04 sq. m.; prop. $1/2.15$; retaining wall of z-masonry, stepped courses of drab limestone; rock slopes to north; nine courses on south and eleven courses on north; lowest course on south became course 4 on north; average h. of stepped courses, 36.8 cm.; general batter of retaining wall, 7.4 degrees and 18 minutes; average width of steps, 10 cm.

Increased in length by annex containing two shafts, on north; 4.2×11.35 m.; area, 52.6 sq. m.; prop. $1/0.38$; retaining wall of stepped z-masonry with courses of same height as those of the main core but built of grey nummulitic limestone; the core thus lengthened measured 28.60×11.2 m. (10.9 m. on south and 11.50 on north); area, 323.64 sq. m.; prop. $1/2.5$.

Chapel: exterior c.b. chapel of type (1 a) built around slab-stela; fixed in east face of core-mastaba at 5.5–6.0 m. from SE corner; c.b. chapel altered at several times: consisted originally of several rooms but now shows only one, with subsidiary northern chapel in front of the annex:

(a) N-S offering-room of type (1 a) with niche nearly in middle of west wall in which the slab-stela was exposed to view; 4.8×1.7 m.; area, 8.16 sq. m.; prop. $1/2.82$; entered by doorway in south end of east wall; floor heavily plastered with mud: a mud platform in two stages; on south, 1.05×0.7 m. and 0.31 above floor of room; the lower northern stage, 0.35×0.7 m. and 10–15 cm. high. The east end of the north wall shows that there were other rooms on east and north of room (b), but these are not now to be traced.

Construction of chapel: the west wall of room (a) with its niche for containing a slab-stela was the oldest wall pre-

served and probably part of the original chapel; it was built over five stepped courses of the retaining wall and was 0.5 m. thick; at the NW corner of room (a); this wall is bonded with the north wall of that room, 0.35 m. thick, running eastwards to the NE corner of room (a); on the outside of this corner the butt-ends of two walls were preserved, one running east and the other north; the butt facing east was also 0.35 m. thick; the butt facing to north was 0.5 m. thick and the original east wall of room (a) was probably of that thickness.

Built later were the thinner south and east walls, 0.35 m. thick on south and 0.48 m. thick on east; the east wall contained the present entrance doorway.

The small mastaba, G 1226-AB, was built over the destroyed room north of (a), probably in the last period of the chapel.

After the abandonment of the chapel G 1216 was built over the south end of room (a) and over the ground south of it.

Subsidiary North Chapel: built against the east face of the annex numbered G 1228; an exterior c.b. chapel of type (8 e) with one N-S offering-room; 4.65×1.3 m.; area, 6.04 sq. m.; prop. $1/3.58$; the west wall of c.b. is built over the lower courses of the retaining wall with a deep compound niche towards south end of west wall; the

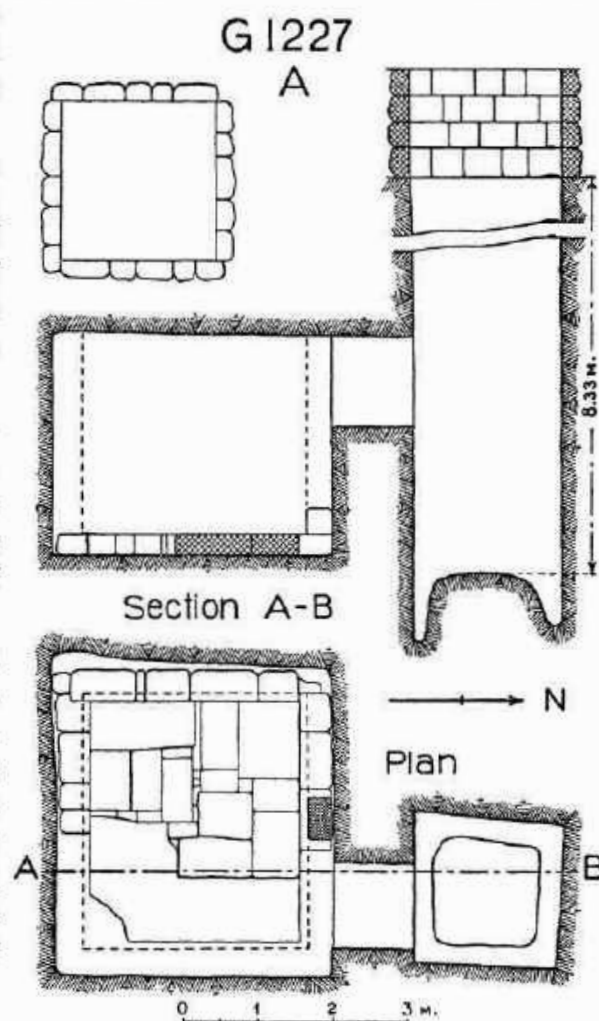


Fig. 232

second course of the retaining wall has been broken away to admit the brickwork of this niche; entered by doorway from north in middle of north wall; walls preserved to a height of 1.1 m.; walls cut and damaged by at least two intrusive shafts.

Slab-stela: found in place bound with plaster in an emplacement in retaining wall exposed to view in the niche in the middle of the west wall of chapel; woman seated facing to right at table of bread (low loaves), lappet wig and long tunic; right hand extended to table and left open on right breast; chair with palm capital at back; under table ideographic list with bread and beer on left and on right, *šš*-ointment, *mnht*-linen, bull head and head of goose; above the bread a short list of offerings with words written vertically but not separated, *šntr*, *hst-t*, *wšd*, *mšdmt*; below these ewer and basin, joint of meat on a platter, trussed goose on a platter; to the right of table, an old compartment list, full height of slab, with three kinds of linen and at bottom a row of five granaries; above across the top from linen list to the left side of the slab, a horizontal inscription, *rht nšwt Št-t-hknt*. See Pl. 20 a.

Shafts in G 1227 and annex (G 1228): in the core-mastaba, G 1227, is one shaft A, in position of one-shaft mastaba, north of middle; in the annex numbered G 1228 are two shafts, G 1228 A and B.

Shaft 1227 A: in old core-mastaba, north of middle; 2.06 × 2.08 m.; —8.33 m. in rock; lined above with drab masonry, 1.42 m.; four courses.

Chamber: type 1 ar; lined and paved; on south; lined chamber, 2.98 × 3.4 m. and 2.66 m. high; area, 10.13 sq. m.; capacity, 26.94 cu. m.; rock chamber, 3.7 × 4.09 m. and 2.93 m. high; area, 15.13 sq. m.; capacity, 44.33 cu. m.

Passage: rock cut, 1.1 × 1.15 m. and 1.2 m. high; lengthened by passage through lining to 1.38 m.; roof horizontal, level with roof of chamber; step down from floor of passage to floor of chamber, 1.43 m. and 1.7 m. to rock.

Blocking: probably of type I b, but entirely removed by thieves.

Completely plundered: no trace of burial or coffin; no objects in debris.

Canopic pit: apparently never cut.

Lining and pavement: constructed as in G 1203; partly removed; red construction lines on walls and ceiling mark the position of the undressed exposed faces of the lining: the dressed faces were 5 cm. inside the red lines.

Shaft 1228 A: near middle of annex; 1.1 × 1.15 m.; —5.1 m. in rock; lined above with rubble, 4.25 m.

Chamber: type 5 b (2); on west; 1.9 × 2.1 m. and 1.3 m. high; area, 3.99 sq. m.; capacity, 5.18 cu. m.

Passage: 0.95 × 0.45 m. and 1.2 m. high; step down 0.1 m.

Blocking: interior vertical wall of c.b., type II a; two courses remain in place.

Chamber found open and empty; no objects.

Shaft 1228 B: west of A; 1.1 × 1.1 m.; does not enter rock; lined with rubble, 4.0 m.; no chamber; type 7 x.

Later Constructions and Intrusions: against the east face of the main core, between the exterior c.b. chapel and the south side of the subsidiary north chapel, were built four small mastabas, G 1226-AB, 1226-CDE, 1226-FG, and 1226-HJ.

Around the SE corner of the main core and over the south end of c.b. chapel is the small mastaba, G 1216; against the south end of the core stand the small mastabas, G 1214 and G 1215.

West of the mastaba and its annex stand mastabas of the secondary cemetery (see Cem. G 1400 and G 3000, and north of it part of Cem. G 1600).

G 1233: easternmost core in northern row: normal size.

See Map 4 and Figs. 233 (shaft), 62 (lining detail), 70 (window), 77 (annex shaft), 234 a (annex shaft), 234 b (annex coffin), 234 c (annex pottery).

See Pls. 23 f, 24 c-f.

Name: not preserved: see mastaba G 1234 built against east face of mastaba belonging to *šb qd-mr pr-ḥ Cnh-hsf*.

Mastaba: core-mastaba of type II a uncased; 24.9 × 11.9 m.: (11.5 on south and 12.3 on north); area, 296.31 sq. m.; prop. 1/2.1; retaining wall of z-masonry, stepped courses of drab limestone: rock slopes to north; eleven courses on south and ten courses on north: lowest course on south became course 4; on north; average height of stepped courses, 38.7 cm.; general batter of retaining wall, 74 degrees, 30 minutes; average width of steps, 8.8 cm.

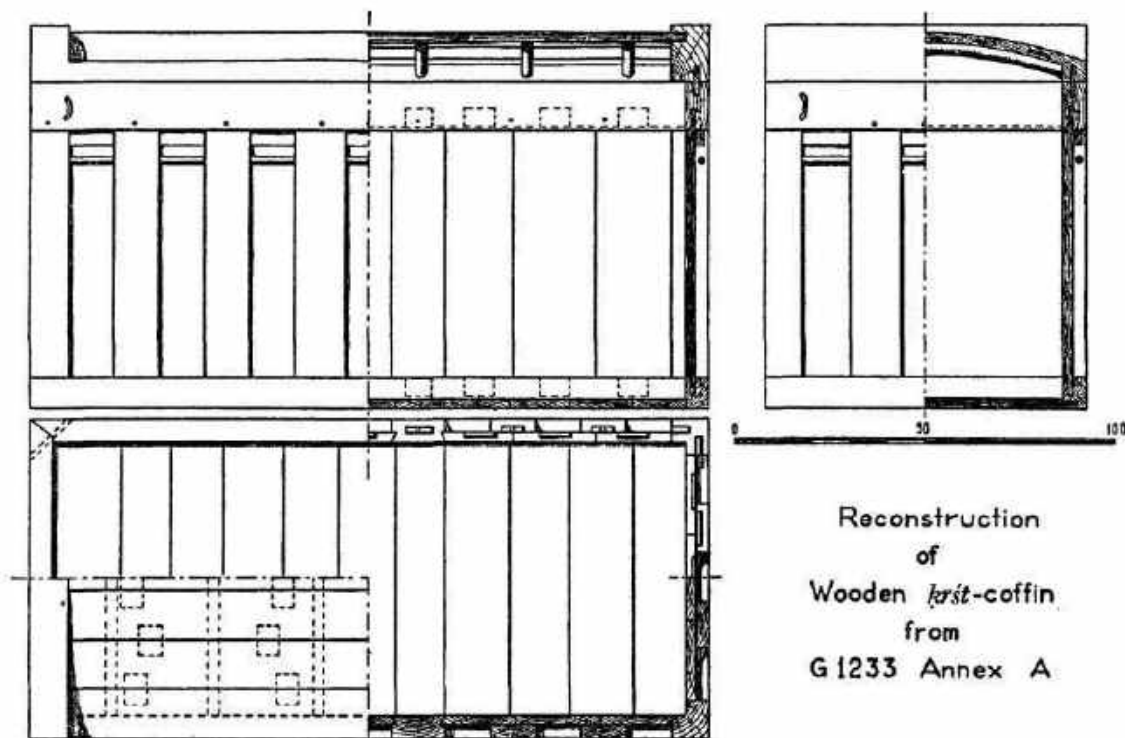
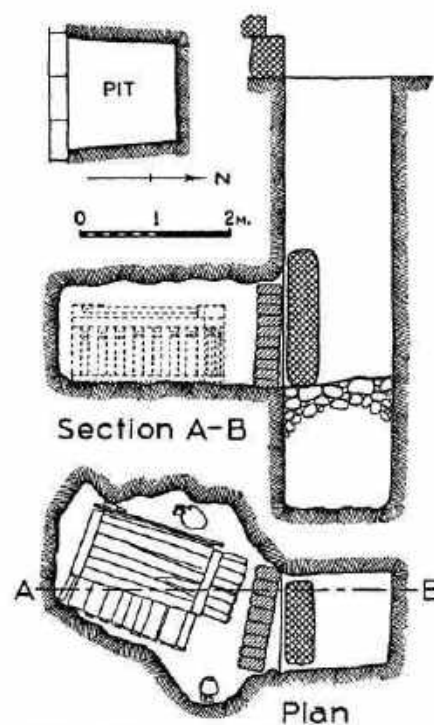
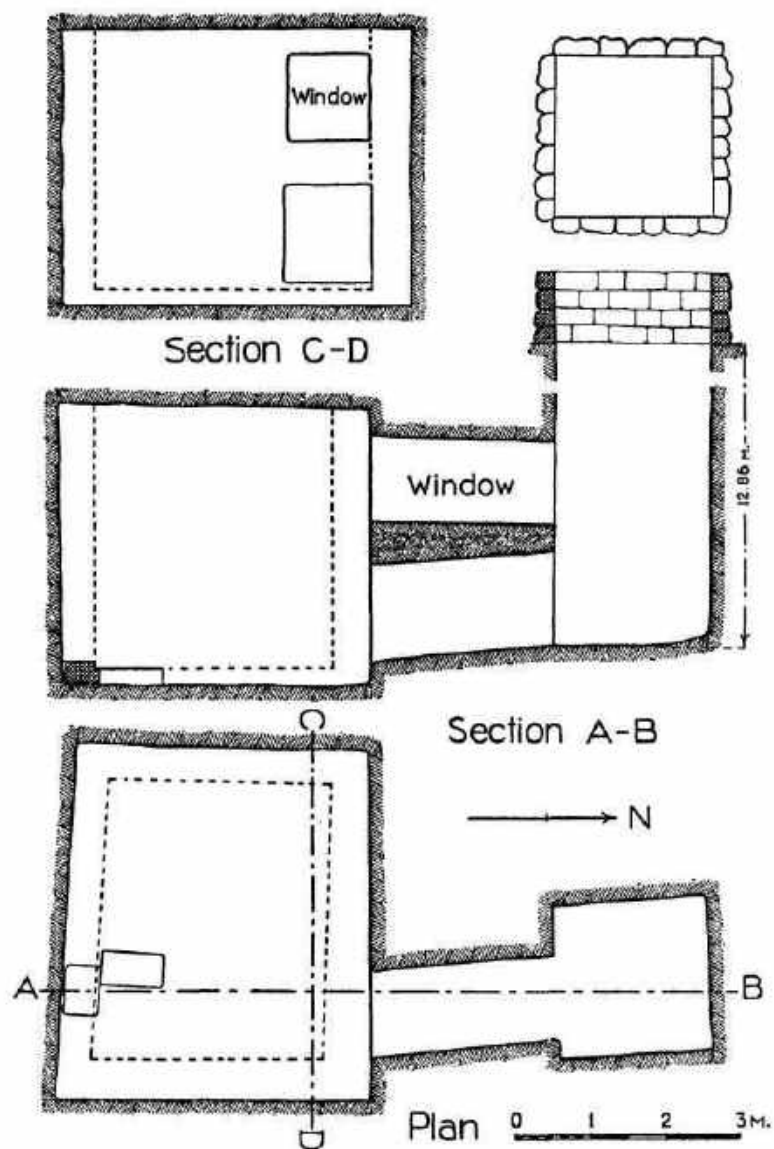


Fig. 234 b
3 G

Increased in length by annex containing one shaft on north; 6.0×12.3 m.; area, 73.8 sq. m.; prop. 1/0.48; retaining wall of stepped z-masonry of drab limestone with courses of same height as those of main core; the core thus lengthened measured 30.9×11.9 m.; area, 370.11 sq. m. (267.71 sq. m.); prop. 1/2.59; no slab-stela or emplacement in main core.

Chapel: the chapel, which was probably originally an exterior c.b. chapel of type (1 a) at the southern end of the east face, was destroyed without any trace; its site was occupied by the mastaba G 1234 (mastaba of Ankh-haf); no slab-stela or emplacement was found in the retaining wall behind G 1234 (cf. G 1209); but in the east face of the main core at 1.1 m. south of its NE corner, a small framed monolithic stela (0.5 m. wide) had been inset in the retaining wall and served as a subsidiary north niche; immediately beside the north side of the stela an E-W c.b. wall (0.15 m. thick) ran out to east for 1.05 m. from face of main core and turned north, bonded for

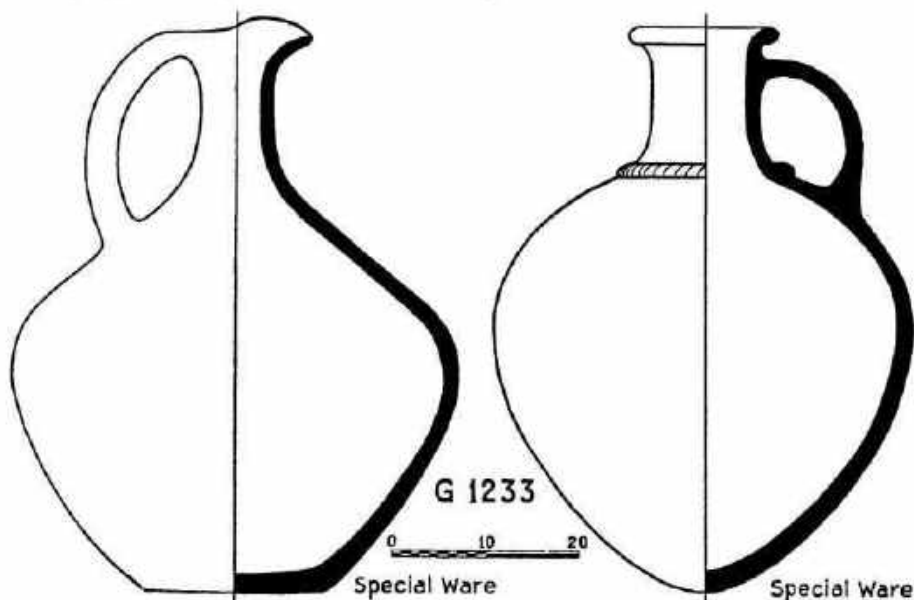


Fig. 234 c

0.9 m. to a broken end, close to the south wall of G 1232; this wall appears to represent the exterior c.b. chapel of the annex. Possibly the man, Ankh-haf, of G 1234 was the owner of G 1233, and replaced the old chapel with this mastaba.

Slab-stela: none found.

Shafts in G 1233 and its N annex: in main core shaft A and in annex shaft A.

Shaft G 1233 A: in main core, in position of shaft in one-shaft mastaba, north of middle; 2.06×2.1 m.; —12.86 m. in rock; lined above with drab masonry, 0.95 m., four courses preserved.

Chamber: type 1 alx, lined and paved; on south; lined chamber, 3.0×3.65 m. and 3.44 m. high; area, 10.98 sq. m.; capacity, 37.77 cu. m.; rock chamber, 4.05×4.68 m. and 3.66 m. high; area, 18.95 sq. m.; capacity 69.35 cu. m.

Passage: rock-cut, slightly sloping downwards from shaft to chamber, 2.26×1.17 – 1.10 m., and 1.3– 1.16 m. high; length through lining, 2.86 m.; step down from floor of passage to pavement, 0.1 m. and to rock, 0.3 m.

'Window': cut in rock from shaft to chamber over the passage; 2.26×1.14 – 1.1 m. and 1.1– 1.06 m. high; the floor slopes gently upwards from chamber to shaft and in the shaft is 0.3 m. above roof of passage; on the inside, 0.62 from floor of window to roof of passage; height on inside, from roof of window to ceiling of chamber, 0.38 m.

Blocking: probably type I b, but no trace preserved.

Coffin: no trace found.

Canopic pit: no trace.

Lining and pavement: one stone of lining and one of pavement were found in place; red construction lines on walls and ceiling.

Chamber completely plundered and stripped of lining and pavement; no objects found in debris.

Shaft G 1233 A, in northern annex: built against the north end of the main core 1.4×1.4 m.; -4.1 m. deep in rock; not lined above rock; rock shaft filled with clean limestone debris before the annex was filled above it.

Chamber, type 6 b (1): on south; 3.0×2.0 m. and 1.3 m. high; area, 5.91 sq. m.; (irregularity); capacity, 7.68 cu. m.

Blocking: type I a; interior vertical c.b. wall; inside doorway of chamber, laid without mortar or plastering but bonded and intact; bricks measure, $35 \times 17.5 \times 14.5$ cm.; outside stood a portcullis slab, 1.8 m. high, 1.1 m. wide, and 0.37 m. thick; at the upper west corner of the slab the rock roof of the chamber is broken down either by a natural fall or by penetration by thieves.

Coffin: wooden *krst*-coffin with simplified panelling on all four sides, type e (p); 1.8×0.85 m. and 1.02 m. high (Fig. 234 b).

Burial: in collapsed wooden coffin, female skeleton, half contracted on left side, head north; skull broken by collapse of coffin.

Objects: original furniture found in chamber:

- (1) special ware with cream slip; one-handed jug, type B-LIII; long slender neck with lip spout opposite handle; h. 30 cm.; d. mouth rim, 6.0 cm.; w. with spout, 7.2 cm.; d. neck, 4.0 cm.; with neck, with handle, 9.4 cm.; d. body, 23.5 cm.; d. base, 10.0 cm. On east side of coffin displaced by collapse of coffin. Fig. 234 c.
- (2) Special ware with cream slip; one-handed jug of type A-LIII; with tapering base rounded at bottom; h. c. 30 cm.; d. rim, 7.8 cm.; d. neck, 5.5 cm.; w. neck and handle, 12 cm.; d. body, 21.8 cm.; cord ridge around base of neck: found on west of coffin again upset by collapse. Fig. 234 c.

Later Constructions and Intrusions: built against the east face of the core G 1233 over the place of exterior c.b. chapel, was built G 1234 in two stages covering the greater part of that face; against the NE corner of the annex on the east was built the small mastaba G 1232.

In the street east of G 1233 and G 1234 stand a number of small mastabas, G 1301 to G 1305.

In the area north of the annex and between G 1233 and G 1235 and north of that space are the small mastabas of the northern part of Cem. G 1600.

G 1235: second core mastaba in the northern row, last in that row: normal size.

See Map 4 and Figs. 71 (window), 101 (chapel), 235 (shaft), 236 (offering-basin).

See Pls. 16 ef, 20 b, 24 ab.

Name: Yeni, *hrp mrrw krrw rh nswt*.

Mastaba: core-mastaba of type II a, uncased; 25.0×11.82 m. (11.65 on south and 12.0 m. on north); area, 295.5 sq. m.; prop. $1/2:11$; retaining wall of 2-masonry, stepped courses of drab limestone: rock slopes to north; twelve courses on south and eight courses on north; lowest course on south, became course 4 on north;

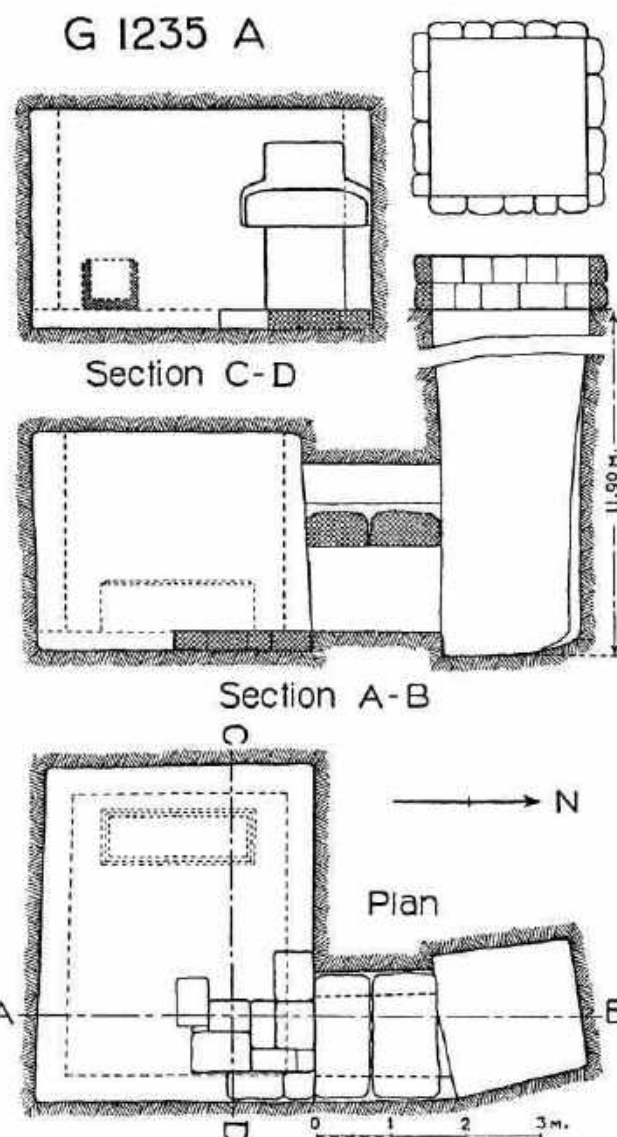


Fig. 235

average height of stepped courses, 35.6 cm.; general batter of retaining wall, 73 degrees, 37 minutes; average width of steps, 9 cm.

Chapel: exterior c.b. chapel of type (1 a), built around a slab-stela set in an emplacement near south end of east face; altered several times: as found presented four rooms:

- (a) N-S offering-room: 5.4 × 1.8 m.; area, 9.72 sq. m.; prop. 1/3.0; slab-stela at 2.35–2.87 m. from SE corner of mastaba, exposed to view in niche (0.7 m. wide); in west wall near south end in front of niche a mud platform, 1.2 × 1.15 m. and 0.2 m. above mud-plastered floor; entered from east by doorway in north end of east wall; two intrusive X shafts intruded in room (a).
- (b) vestibule room east of the doorway to (a): 0.95 × 0.95 m.; area, 0.9 sq. m.; doorway to (a) in west wall; I reconstruct the room with entrance doorway on north and doorway in south wall leading to room (c).

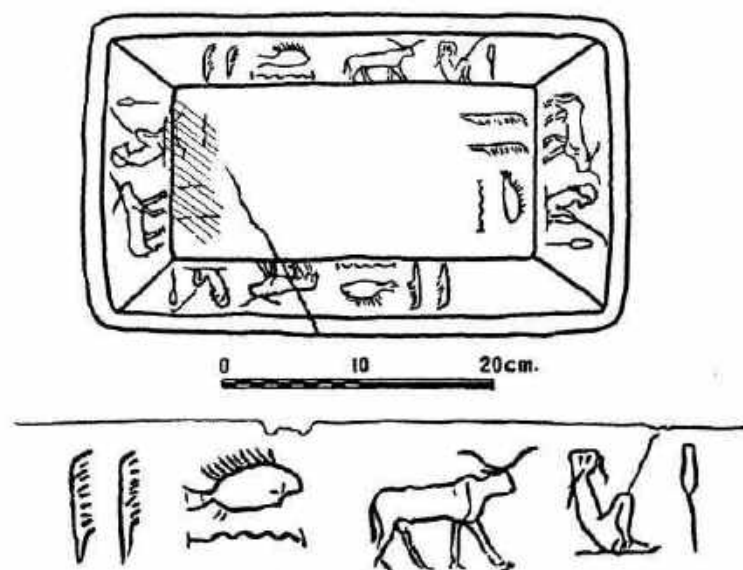


Fig. 236. G 1235

- (c) south of (b), magazine: 1.45 × 0.97 m.; area, 1.4 sq. m.; entered from (b) by doorway in north wall; originally closed on south, but doorway cut through south wall into room (d).
- (d) south of (c) made by walling off part of room (a); 2.5 × 1.0 m.; area, 2.5 sq. m.; entered from north by doorway cut through south wall of (c).

Total area of (a)–(d), 14.52 sq. m.

Construction of chapel: the oldest wall is the west wall of room (a), 0.4 m. thick, built on the lower courses of the retaining wall; the north wall seems to be bonded with the north end of the west wall and is 0.35 m. thick; the south wall, also 0.35 m. thick; was built with its west end against the south end of the west wall, and is bonded with the east wall running along the east side of rooms (d), (c), and (b); these four walls enclosed a large rectangular space in the NE corner of which were constructed rooms (b) and (c), as one room separated from the rest of the space by walls also 0.35 m. thick; built apparently at the same time as the outer walls on south, east, and north (see chapel of G 1209); room (d) was formed later by constructing a N-S wall (0.4 m. thick) in continuation of the west wall of rooms (b) (c) to the inside face of the outer south wall and a doorway cut in the south wall of room (c); still later rooms (b) and (c) were separated by a thin wall, 0.15 m. thick.

Slab-stela: found in place bound with plaster: Yeni seated facing to right at table of bread; short close wig and long robe; right hand extended to table and left hand closed on right shoulder or holding tie on that shoulder: under the table, ideographic list, with *šš*-ointment and *mnht*-linen on left; and on right, bread, beer, head of bull and head of oryx; above the table, short list of offerings consisting of two horizontal lines: (1) words written vertically with signs facing to left, *šntr*, *hst-t*, *wid*, *msdmt*; (2) haunch of beef, trussed goose; to the left in the field ewer and basin; on the right of the table, full height of slab, old compartment list giving four kinds of linen: across the top to left of linen list, horizontal line, *hrp mrw iwsw rh nswt Tny*. See Pl. 20 b.

Offering-basin: found in room (a), displaced by intrusive shafts; white limestone; rectangular offering-basin not sharply formed; single hollow with internal corners marked but bottom inside, not marked; 40.5×24.4 cm.; inside four incised inscriptions, one on each of four sides; each inscription is written to be read with side on which it is written held upwards; all signs face to right; all read the same, *hrp mnw itw Twy*. See Fig. 236.

Shaft in G 1235: in position of shaft in one-shaft mastaba; north of middle; 2.08×2.08 m.; — 11.9 m. in rock; lined above with drab masonry, 0.7 m., two courses; chamber slightly askew to shaft.

Chamber: type 1 af lined and paved; on south; lined chamber, 2.9×3.7 m. and 2.64 m. high; area, 10.73 sq. m.; capacity, 28.32 cu. m.; rock chamber, 3.66×4.46 m. and 2.88 m. high; area, 16.32 sq. m.; capacity, 47.0 cu. m.

Passage: rock cut, 1.8×1.1 m. and 2.2 m. high; 0.42 m. from roof of rock-cut passage to roof of chamber; this high passage was designed to permit the cutting of the chamber from the roof downwards; after the cutting of the chamber a groove was cut along each side of the passage at a level 1.14 m. above the floor of the passage and in these grooves were set two thick slabs (lying E-W) to form the roof of the final passage; thus a space 0.6 m. high was left between the tops of slabs and rock roof of passage; this space was certainly closed on the inside by the lining and probably filled with masonry on the shaft side; the final passage 1.7×1.1 and 1.14 high; length through the lining, 1.95 m.; floor of passage on level with top of pavement.

Blocking: all traces removed by stone thieves; probably of type I b, with portcullis slab.

Coffin: damaged white limestone coffin of type (d) with lid missing; found upset along west side of chamber; outside, 2.06×0.72 and 0.64 m. high; inside, 1.86×0.53 m. and 0.5 m. deep; outside of upper edge rabbeted to take a projection strip on under edge of lid; in the floor of the coffin inside are twenty-four round lightly cut emplacements (d. about 8 cm.), only 1–3 mm. deep; these appear to mark the places of small alabaster jars or model jars representing ointment; along each long side are eight emplacements and along each end three; in the south end are two extra circles: it is clear that a wrapped mummy in the half contracted position probably lay in the coffin surrounded by ointment jars.

Canopic pit: none.

Lining and pavement: lining destroyed; part of the pavement remains round the entrance; the rest of the white limestone has been removed by stone thieves; red construction lines.

Completely plundered: no objects.

Later Constructions and Intrusions: in the street between G 1235 and G 1233 was built the medium-sized stone mastaba G 1673, north of the exterior c.b. chapel of G 1235; against the south end of G 1673 was built the small mastaba G 1675 filling the space up to the north side of the c.b. chapel of G 1235; these mastabas belonged to the secondary cemetery G 1670–96 in the area north of G 1235 and G 1673.

On the west G 1235 is bounded by Cem. G 3000, excavated by Dr. Fisher.

In the chapel were two intrusive shafts made after the sanding up of the cemetery.

APPENDIX B

THE GREAT MASTABA G 2000

THE great mastaba G 2000 is the largest mastaba in the Western Field, equalled in size only by the mastaba of Prince Ankh-haf in the Eastern Field. G 2000 stands on cracked ground with uneven surface sloping to the north, north of the initial cores of Cem. G 4000 and between the other two early nucleus cemeteries G 1200 and G 2100. The space on the east between it and Cem. G 2100 is about 50 m. wide E-W, and that on the west between it and Cem. G 1200 is about 75 m. wide E-W. The ground over and around the site occupied by G 2000 was obviously unoccupied when G 2000 was built, but certainly the initial core-mastabas of the three early nucleus cemeteries were already in place. The vacant spaces were filled with complexes of mastabas beginning in Dyn. IV and extending to the end of Dyn. VI.

G 2000 is associated in size with G 7510 (Prince Ankh-haf). In material and construction it resembles G 7410 + 20 (Queen Meresankh II and her husband). The core is of massive nummulitic masonry faced with stepped courses of drab limestone (core type III-ii). It was in process of casing with white limestone with interior chapel of white limestone of type (4 a), but the casing was left unfinished. The massive nummulitic masonry is related to similar core-work used in Cem. G 4000 after the initial five mastabas, to the core-work of the eight twin-mastaba in the Eastern Field, and to the core-work used in the enlargements of G 1201, G 1223, and G 1225. The facing with stepped courses of drab limestone is related to the facing of the massive cores G 4140 and G 4350 which, however, had no chapel recess (type III-i). The stepped appearance of the facing is that presented by core-types II a and II b used for the fifteen initial cores of the Western Field. Type II a continued in use to the reign of Mycerinus.

The interior chapel of type (4 a) marks the mastaba in its finished form as not earlier than the eight twin-mastabas. The position of the one used burial-shaft is that of the man's shaft in a two-shaft mastaba and therefore probably later in date than the eight twin-mastabas. The type of the burial-chamber is also significant of a date later in the reign of Cheops or early in the reign of Chephren. The type is 2 alx (ramp), with red construction-lines marking the designed lining of white limestone (never built). This type of chamber occurs in nine mastabas of the second addition to Cem. G 4000 (G 4140 to G 4740, G 4750, G 4760), of which four were lined with white limestone and five were left unlined. In the Eastern Field, G. 7510 (Ankh-haf) had a lined chamber of type 2 amx (ramp), and the burial apartment of the queen's pyramid G I-a had a ramp in the anteroom (turning room) at the foot of the sloping passage.

Thus G 2000, isolated as to position in a field containing three nucleus cemeteries begun by Cheops, is closely connected by the types of its core, its chapel, and its burial-chamber with mastabas of the second addition to Cem. G 4000, with the fourth or the easternmost of the twin-mastabas of the Eastern Field, and with the great mastaba of Prince Ankh-haf (G 7510). The date thus indicated is not earlier than the last two years of Cheops and not later than the first five years of Chephren.

G 2000: isolated mastaba on independent site: on rock sloping gently to N:

See Map 2 and Figs. 4 (mastaba), 237 a, (shaft), 237 b (pottery jar).

See Pls. 25 a-d, 26 a, b.

Name: not recovered, but a person of great means, probably a prince of the blood royal.

Excavated: the west side of the mastaba in 1903-4 with Cem. 1000; the east side in 1905-6; shaft excavated Jan.-March 1912; re-examined in 1935; NE corner cleared in 1936-7.

Mastaba: core of type III-ii; consisting of massive nummulitic core work of type IV-iii faced with stepped courses of drab nummulitic limestone (z-masonry); with two recesses for interior chapels in the massive core-work and in the stepped facing; the northern recess was walled off later by stepped masonry and filled with large blocks. The larger southern recess contained an interior chapel of type (4 a) of white limestone: a casing of white limestone was begun but only a few blocks of the lowest course were set in place; faced core, 105.0 × 53.2 m.; area, 5586.0 sq. m.; prop. 1/1.97; max. height of mastaba, 9.6 m.; max. height of stepped facing, on west, 5.2 m.; max. height of stepped facing, on east, 6.3 m.; average height of stepped courses, 0.39 m.; average width of steps, 0.11 m.

Southern chapel recess in faced core: 10.6×7.6 m.; area, 80.56 sq. m.

Northern chapel recess in faced core: 9.0×9.0 m.; area, 81.0 sq. m.; floor of recess at top of sixth course from bottom 0.32 m. below floor of southern chapel.

Chapel: interior chapel at south end of east face: type (4 a) of white limestone with exterior c.b. chapel and subsidiary N niche:

- (a) interior N-S offering-room of white limestone with two niches in west wall; 4.5×1.75 m.; area, 7.87 sq. m.; prop. $1/2.57$; entered by doorway in north end of east wall; the white masonry of the east wall projects eastwards of the faced façade, and was intended to be bonded with the unfinished white casing.

Exterior c.b. chapel, type (1 g), with four rooms (b, c, d, e); outside, 8.8×9.97 m. with total area of

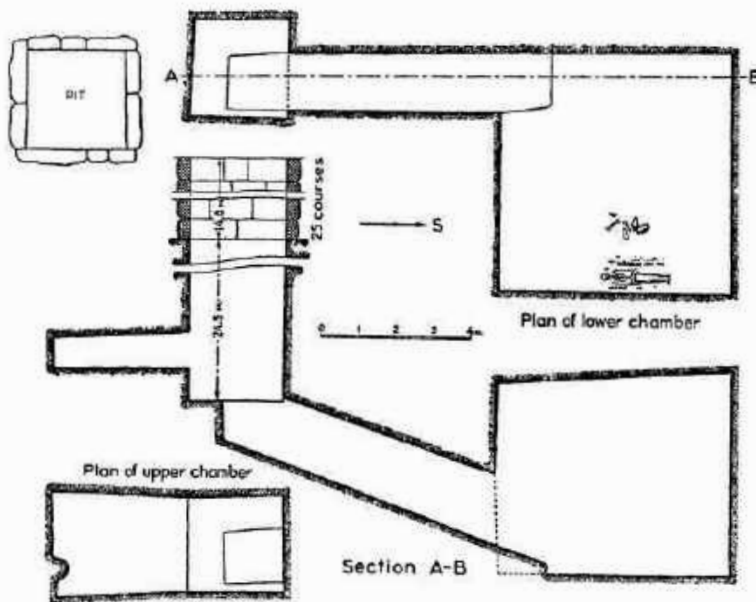


Fig. 237 a. G 2000 B

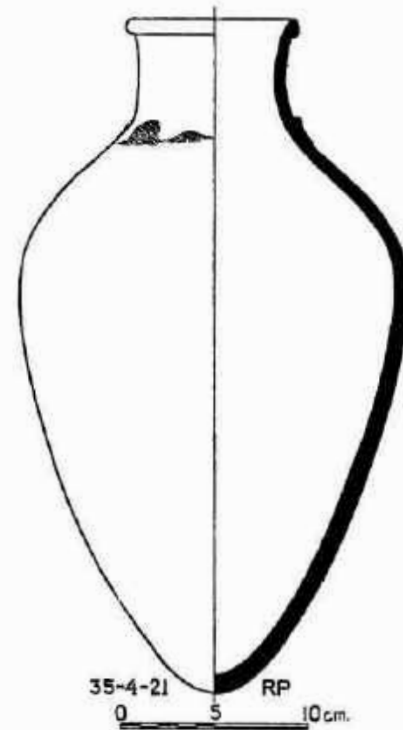


Fig. 237 b. G 2000 B II ch.

86.24 sq. m.; the outer rectangle was formed by three walls, 0.8 m. thick; inside this rectangle four rooms were made by building dividing walls, 0.55–0.65 m. thick.

- (b) N-S hall around entrance to room (a): 7.25×2.1 m.; area, 15.22 sq. m.; with doorway to offering-room in middle of west side; entered from east, from room (c), by doorway in south end of east wall; possibly a doorway to room now destroyed.
- (c) N-S room east of south half of (b): 4.0×2.32 m.; area, 9.28 sq. m.; entered from east from room (b) by doorway in south end of east wall, now blocked with c.b.; doorway to room (b), in south end of west wall also blocked with c.b.; the room was occupied later by two intrusive shafts X and U.
- (d) room north of (c): 4.0×3.5 m.; area, 14.0 sq. m.; entered from east from outside by doorway just north of middle of east wall, main entrance to chapel; no embrasure on outside but door embrasure on inside reinforced on south side; doorway to room (c), in south end of west wall now blocked with c.b.; doorway to room (e) near east end of north wall, partly broken down.
- (e) large E-W hall north of (c) and (d): 2.6×6.6 m.; area, 17.16 sq. m.; entered from south from (d), by doorway in east end of south wall; doorway to room (b), possible in south end of west wall where wall is broken; intrusive shaft Z in the NE corner of room.

Total floor area, b–e, 55.66 sq. m.

Total floor area, a–e, 63.53 sq. m.

Alteration by intrusive shafts, an intruded c.b. wall in room (b) and by decay.

Subsidiary North Niche: in the stepped wall closing the northern chapel recess, north of the middle, is constructed

a recess, 1.45×1.3 m., with a *ka*-door constructed in the west wall; inner niche measures 0.5×0.5 m.; the floor of the niche is 3 courses above the rock, 1.88 m. below floor of southern chapel; the height as preserved is 2.89 m.

Shafts in G 2000: the mastaba was searched thoroughly but only one shaft was found which certainly belonged to the mastaba; this was near the medial axis south of the middle in the position of the chief shaft in a two-shaft mastaba; as the northern chapel was never constructed, I conclude that the mastaba was designed as a two-shaft mastaba but the northern shaft was never built (cf. the great mastaba G 7510 in the Eastern Field); SW. of the chief shaft B, was an unfinished intrusive shaft lettered A.

Shaft G 2000 A: intrusive unfinished shaft SW. of B: 2.85×2.7 m. at top; the mouth of the shaft appears probably formed but below the first course of masonry we found a thieves' shaft of smaller size, filled with drift sand, cut through the filling of the mastaba to a depth of 7.5 m.

Shaft G 2000 B: chief and only original shaft, in position of chief shaft in two-shaft mastaba; 2.6×2.6 m. at top; 2.5×2.55 m. at bottom; -24.5 m. in rock; lined above with massive masonry (grey nummulitic stone), 14.6 m., twenty-five courses, total depth 39.1 m., as preserved; originally at least 40.5 m.; two chambers, (1) on north, unfinished and (2) on south, used for burial.

Chamber (1): at 0.85 m. above bottom of shaft; unfinished chamber, 3.6×2.6 m. and 0.9 m. high; area, 9.36 sq. m.; capacity, 8.42 cu. m.

Chamber (2): actual burial-chamber; at bottom of shaft; type 2 alx (ramp); on south; 6.15×6.4 m. and 5.2 m. high; area, 39.36 sq. m.; capacity, 204.67 cu. m.

Passage: opens in pit in bottom of shaft, 1.6×1.45 m. with drop of 1.0 m. on north to floor of sloping passage; horizontal length of sloping passage from north end of pit to chamber, 7.25 m.; sloping length of floor, 7.8 m.; roof, 6.0 m.; width, 1.5 m., 1.65 m. high at right angles to slope; opens in chamber, 0.75 m. above floor and 2.4 m. below roof of chamber; ramp, with horizontal length of 1.3 m. with width of 1.5-1.3 m.; step down at end of ramp, 0.25 m.

Blocking: blocks found in chamber indicate that the whole passage was filled with interior blocking of masonry laid in plaster; no trace of a portcullis slab was found; blocking, apparently type II b (1).

Coffin: along the west wall of the chamber lay decayed fragments of a wooden coffin: partly covering a skeleton; on east two sealed jars and ox-bones.

Burial: extended on back but possibly originally half contracted head north: a large male skeleton. Dr. D. E. Derry, Professor of Anatomy at the Egyptian University, states in a letter concerning this skeleton, that in his opinion the skull is that of a very old man and its dimensions indicate a person of unusual mental capacity.

Lining: red construction lines on walls and ceiling for the construction of white lining but the lining was never begun.

Objects: found in chamber east of coffin:

35-4-21: RP: large jar of type A-II b; h. 35.6 cm.; d. rim, 9.0 cm.; d. max. body, 20.6 cm.; remains of mud stopper covered with plaster. See Fig. 237 b.

35-4-22: RP: large jar of type A-II b; h. 37.0 cm.; d. rim, 10.4 cm.; d. max body, 21.6 cm.; partly filled with dried mud with remains of plaster stopper on shoulder.

In the filling of the shaft in 1912 were found a frag. of a granite statuette and a frag. of alabaster.

35-4-23: frags. decayed wood from coffin.

35-4-24: ox-bones, leg bones.

APPENDIX C

DESCRIPTION OF NUCLEUS CEMETERY G 2100

ABOUT 50 m. east of the great mastaba G 2000 is the western side of a nucleus cemetery of eleven mastabas, designated G 2100. That great mastaba stands on sound, but uneven, nummulitic limestone with the rock on the eastern side much lower than on the west. The space between G 2000 and Cem. G 2100 slopes gently upwards to the east and is mainly covered by a weak geological deposit of red gravel mixed with boulders of various sizes. The western line of mastabas in Cem. G 2100 is built on a low ridge east of this space and also shows some patches of bad rock. From this ridge under G 2100 and G 2110 the rock surface slopes gently down to the east and is mainly of sound rock. This rock also slopes gently to the north. The foundation courses of the cores and the casings are founded on rock and the streets and avenues were packed with limestone debris to the level of the adjacent chapel floor. The finished sloping casings are dressed to the level of the packed floor of the streets.

The nucleus cemetery G 2100 consists of eleven core-mastabas of type II a or II b. These cores, eleven in number, were laid out in four N-S lines. The cemetery fell into two groups. The western group of five mastabas were in two N-S lines, two in the western line and three in the eastern line, but not in rows. That is, they were built after the manner of a family cemetery. All the cores were correlated by the use of the portcullis groove in the shafts, the only shafts with portcullis grooves in the necropolis. These cores were constructed before the eastern group and were finished in general before any core of the eastern group. The eastern group consisted of six core-mastabas of type II a laid out in two lines of three cores each, set in three E-W rows of two mastabas each. These six cores were alined with each other and those of the middle row had their southern ends alined with the southern end of the core G 2120, the southern core in the eastern line of the western group. The northern row stood in a similar relation to G 2130. The cores were numbered by me as follows:

Western group, western line: from south to north, G 2100 and G 2110.

Western group, eastern line: line 2: from south to north, G 2120, G 2130, and G 2210.

Eastern group, western line: line 3: from south to north, G 2135, G 2140, and G 2150.

Eastern group, eastern line: line 4: from south to north, G 2155, G 2160, and G 2170.

The eastern group gave the cemetery its appearance of a unified plan and was obviously built after the western group. The cores also were finished, with the exception of G 2135, after the cores in the western group. G 2135 and G 2155 were excavated by Professor Junker and published in *Giza I* and *II* respectively under the numbers 7 NN (4770) and 8 NN (4870) (tomb of Kaninesuwt). But as the cores belong to Cem. G 2100, not to Cem. G 4000, I have renumbered them G 2135 and G 2155 and described them here with Cem. G 2100.

In spite of the fact that the western group of five cores all had shafts with portcullis grooves and were all built by the same gang of workmen about the same time, the cores were finished as mastabas at different times. I place them in the order of their finishing, as G 2100, G 2130, G 2120, G 2110, G 2210. The first mastaba of the eastern group to be finished, G 2135 (Junker), was finished about the same time as G 2210. Thus it may be concluded that the six cores of the eastern group were built before the cores in the western group were finished and probably in continuation of the western cores. The cores in the eastern group were finished in the order, G 2135 (connected with the western group), G 2140, G 2150 (after Mycerinus), G 2155 (about the time of Neferirkara). The two cores, G 2160 and G 2170, were used unfinished and uncased for unimportant persons about the same time as G 2150 and G 2155. Thus the cores were constructed from west to east and finished as mastabas also from west to east with slight variation in the order of growth.

The building of Cem. G 2100 in two groups, of which only the eastern group of six was laid on a unified plan, created streets and avenues of different widths in two groups. The spaces in the western group were comparatively small and occupied by a few very small mastabas. The spaces in the streets and avenues of the eastern group were larger and filled with complexes of small and medium-sized mastabas. North of G 2150 and G 2170 was built the large mastaba G 2220 (east of G 2210), before the cemetery of the secondary mastabas was begun on this side, and left a wide empty space between this large mastaba and the eastern group. This space was filled with complexes of mastabas beginning with a mastaba of a *ka*-priest of G 2150. South of the western group, between it and the northern end of Cem. G 4000, again

a wider space was left and occupied mainly with the mastabas of 'Prince' Mer-ib and his daughter added in succession to G 2100. West of the western group, the space between it and G 2000 was filled with complexes of small and medium-sized mastabas of Dyn. V and VI close up to the backs of 2110 and 2100. East of the whole cemetery ran the northern ends of the three lines of the Cem. en Echelon built later with its streets filled with secondary mastabas. East of G 2220, north of the Cem. en Echelon, the cemetery of the secondary mastabas extended eastwards to the Senezemib complex, NW of the NW corner of the Cheops Pyramid.

G 2100: southern core in western line, probably first in western group: uncased with slab-stela emplacement and exterior c.b. chapel.

See Map 5 and Figs. 34 (shaft), 75 (blocking), 174 (II-ann. Chapel), 238 (section through northern chapel), 239 (objects).

See Pls. 27 a-e, 28 a-d, 40 a.

Name: not preserved: by deduction father or mother of 'Prince' Mer-ib and a son or daughter of Cheops.

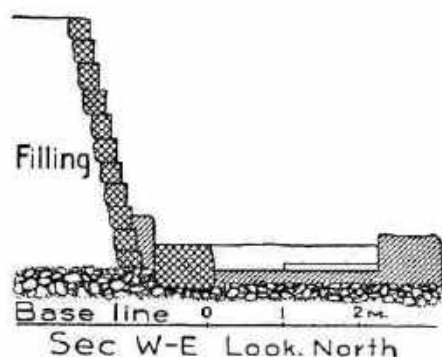


Fig. 238. G 2100

Mastaba: core-mastaba of type II a, uncased; 21.6×12.0 m.; area, 259.0 sq. m.; prop. 1/1.8; with empty emplacement for slab-stela towards south end of east face; 0.38 m. high by 0.58 m. long; height of mastaba, 3.0 m.; on nearly level rock: average height of stepped courses, 31.1 cm.; average width of steps, 8.0 cm.; general angle of batter of stepped wall, 77 degrees, 19 minutes; the southern end was later enclosed in the heavy retaining wall of w-masonry of the mastaba (type VII a) of Mer-ib.

Chapel: traces of an exterior c.b. chapel, apparently of type (1 a); only NE corner preserved with whitened mud floor and small bench inside the corner; with slab-stela exposed in c.b. west wall of offering-room; destroyed by denudation and by the construction of intruded small mastaba of c.b.

Shafts in G 2100: the mastaba was originally a one-shaft mastaba, represented by shaft A with lined chamber north of middle of mastaba in medial axis, in which the person of the slab-stela was buried; later, three small shafts were intruded in the mastaba, D north of A, E askew east of D, and F close to the north end of masonry of the addition (Mer-ib); shaft F was probably subsidiary to the Mer-ib addition; shafts B and C were in the Mer-ib addition.

Shaft 2100 A: original shaft, north of middle; 2.05×2.1 m.; —7.8 m. in rock; lined above with drab masonry, 2.9 m., ten courses; in south end a portcullis slab in south ends of east and west walls, 0.55 m. wide (N-S) \times 0.25 m. deep (E-W); portcullis slab in place in grooves; portcullis slab, 2.3 m. wide, 1.9 m. high, and 0.4 m. thick; the upper left-hand corner had been broken off by plunderers to gain access to chamber.

Chamber: type 1 cl, with lining and pavement complete; on south: 3.55×3.45 m. and 3.0 m. high; area, 12.24 sq. m.; capacity, 36.72 cu. m.; the measurements of the rock-cut chamber could only be estimated, 4.25×4.15 m. and 3.25 m. high; area, 17.63 sq. m.; capacity, 57.29 cu. m.

Passage: horizontal opening in chamber flush with east face of lining, low down in north wall; rock-cut 2.0×1.23 m. and 1.23 m. high; continued through the lining with total length of 2.35 m.; step down from floor of passage to pavement of chamber, 0.53 m.

Blocking: interior blocking of white masonry set in plaster, penetrated by plunderers in upper part; outside, portcullis slab in portcullis grooves (for size see under shaft above) with upper left hand corner broken off by thieves; blocks of interior blocking found in shaft and some in chamber.

Coffin: frags. of white limestone coffin with flat lid (type d); found in debris in lower part of shaft; in the chamber, scattered on the floor, frags. of decayed wood (probably from inner coffin of wood), scattered bones and model vessels.

Canopic pit: in the SE corner; 0.57×0.53 m. and 0.55 m. deep; rebate for lid on north and east sides.

Objects: found scattered on floor of chamber:

36-1-2: alab. model basin of type S-X b; broken in two pieces and frag. of a second; h. 3.4 cm.; d. rim, 4.2 cm.; d. base, 1.9 cm. See Fig. 239.

36-1-3: alab.; 41 or more model basins, type S-X a, with slightly convex sides; 18 perfect, 4 broken but complete, 7 broken but nearly complete, and frags. of 12 or more. See Fig. 239.

(a) h. 1.4 cm.; d. max. 4.8 cm.; d. base, 1.6 cm.

(b) h. 1.6 cm.; d. max. 6.8 cm.; d. base, 2.6 cm.

36-1-4: human bones; broken and scattered, including skull.

Objects: found in shaft D, perhaps thrown out from shaft A:

(7) alab.: large shoulder jar with neck and with ledge rim; type S-XV a (1); h. 29.4 cm.; d. rim, 15.6 cm.; d. neck, 13.8 cm.; d. max., below shoulder, 29.2 cm.; d. base, 14.4 cm. See Fig. 239, Pl. 43 e.

(1) Flint: flake with rounded butt and pointed end; length, 9.5 cm.

(2) RP: frag. deep bowl with plain rim and contracted mouth; type uncertain.

(3) RP: frags. of bowl with recurved rim; type XXXII or XXXVI.

(4) BrW: smooth; bowl with recurved rim; frags.

(5) WSRW: large jar of type A-II b; frags.

(6) Alab.: frag. of shallow dish with plain rim.

Shaft G 2100 B: chief shaft in 2100-I-annex (Mer-ib); see below.

Shaft G 2100 C: secondary shaft in 2100-I-annex (Mer-ib); see below.

Shaft G 2100 D: north of A and intrusive; 1.0 × 1.0 m.; ends at rock; lined with small masonry, 3.5 m.; no chamber, type 7 X; filled with drift sand in which were found frags. of white limestone coffin and seven other objects obviously thrown out from shaft A (see list under shaft A, above).

Shaft G 2100 E: askew east of A; intrusive, 1.3 × 1.3 m.;—2.9 m. in rock; lined above with grey masonry, 4.8 m., fourteen courses; no chamber; type 7 X; completely plundered.

Shaft G 2100 F: in south end of mastaba, just north of north end of G 2100-I-annex; 1.6 × 1.2 m.; ends at rock; lined with small masonry; no chamber; type 7 X; empty.

G 2100-I-annex: built around and over the southern end of the core mastaba G 2100.

Excavated: partly by Lepsius (LD. G 24) who removed the chapel now in Berlin; re-excavated by us partly in 1905-6 and partly in 1931-2.

Name: 'Prince' Mer-ib, *rh nswt, s; nswt n ht-f, smr, imy-r; hst nbt nt nswt, imy-r; mšc, wr md šmrcw, hrp ch, smr wcty, hry hb, wr m(w) Twonw, hm ntr Hwfw*, and other titles of religious offices (mainly connected with barks).

Mastaba: type VII a (2); heavy retaining wall of w-masonry (grey nummulitic limestone), which covered the top of the mastaba (cf. G 5230); enclosed south end of the core G 2100; 22.0 × 14.0 m.; area, 308.0 sq. m.; prop. 1/1.57; height about 5.0 m.

Chapel: type (4 a) interior two-niched of nummulitic limestone, carved with sized technique; 3.85 × 1.56 m.; area, 6.0 sq. m.; prop. 1/2.46; relation, 1/51.33; fully decorated; see LD. II, Pl. 18-22, LD. III, Pl. 288, Nos. 4, 5; L. *Textband*, pp. 46-49.

Subsidiary North Niche: large niche towards north end of east face of mastaba cut in grey retaining wall of mastaba topped by an architrave of separate block: framed *ka*-door; height to top of architrave, 4.2 m.; width of architrave, 1.84 m.; width of *ka*-door, 1.34 m.; tablet, cross-bar, and drum; inner niche, 0.18 × 0.16 m.; outer niche, 0.62 × 0.1 m.; outer panels, very shallow, 2 cm. deep.

Exterior c.b. chapel nearly destroyed: on south, a magazine, room (b), and north of it the end of a long N-S room which appears to have surrounded the doorway to the interior chapel, room (a).

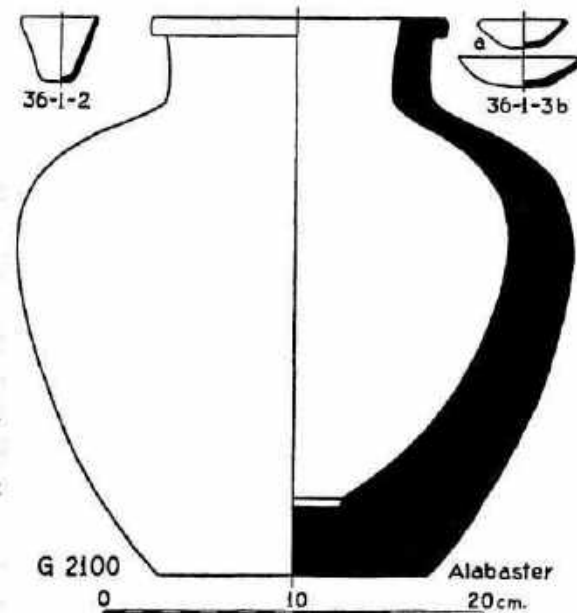


Fig. 239

- (b) N-S magazine (?); 2.27×1.8 m.; area, 4.08 sq. m.; entered from north from (c), by doorway in north wall.
 (c) hall around doorway to (a); 9.75×2.25 m.; area, 21.93 sq. m.; whitened walls; entered from east by doorway in north end of east wall; northern end destroyed by small intruded mastabas and shafts.

Decoration of Chapel:

West wall: two *ka*-doors of which the south niche is higher and the north niche wider and lower (LD. II, Pl. 19).

South *ka*-door: architrave with combined offering formula; tablet with table scene (omitting linen list); tablet flanges painted as granite; cross-bar with titles and name; drum in inner niche; back of inner niche painted as granite; sides of inner niche uninscribed; backs of outer niche, Mer-ib, standing facing in with titles and name; sides of outer niche, vertical row of vessels on stands (LD. II, 20 d, e).

North *ka*-door: decoration similar to south *ka*-door but the tablet scene includes on the right the old compartment list of the slab-stelae (linen list).

West wall, between the two *ka*-doors; presentation scene: Mer-ib standing facing to left with small boy in front and four other children in vertical row behind him; in front of him seven registers of figures facing him, two men in respectful attitude, two scribes, four men bringing the funerary meal, five men bearing offerings and personal equipment, and in reg. 5, 6, 7 men bringing in live birds and animals.

West wall, south of south *ka*-door: small independent presentation scene 'viewing the document (?) of the house of the weaving women': Mer-ib seated on left facing to right; with both hands half extended; in front of him, three registers each containing one man facing Mer-ib, overseer, scribe, and man holding up linen; under this scene are two sub-registers perhaps related to chief scene; upper register three men bringing offerings; the lower register shows a slaughter scene (two men cutting up a bull) (LD. II, Pl. 20 a).

West wall north of north *ka*-door: four registers each showing a man standing facing in to left bringing in the funerary meal; subsidiary to the north *ka*-door (LD. II, Pl. 19).

West wall over the north *ka*-door: small table scene with funerary priests performing initial rites; Mer-ib seated at table of bread facing to left (staff held slanting before him) offering formula, list of offerings: on the left facing right a kneeling priest (*šmnt iht*), a kneeling *wt* and a standing *hry wdb*.

North wall: offering scene: Mer-ib seated facing to right: labelled, 'viewing the writing of the offerings (*wdn*)'; on the right above a picture list of offerings in seven registers; below this are two registers with two scribes each (one reading: none writing).

Below this offering scene a sub-register crosses the wall, showing on left four men bringing the materials of the funerary meal and on right a slaughter scene (two men cutting up a bull) (LD. II, Pl. 22 c).

South wall: abbreviated offering scene: Mer-ib standing facing out to left with his mother (Sedyt) behind him with her right arm around his shoulders; simple *dt nswt htp* formula; between Mer-ib and staff a son facing also to left; in front of Mer-ib, four registers each containing a man facing to right, bringing the materials of the funerary meal (LD. II, Pl. 20 f).

East wall: double presentation scene with two chief figures: on left, Mer-ib and mother, standing facing to right and on right Mer-ib standing facing to left; five registers between the two chief figures, with the figures in each facing to left on the left end and to right on the right end; reg. 1-3 contain estates bearing offerings; reg. 4, scribes, men bringing live bird, two animals, and linen; reg. 5, slaughter scene (two men cutting up a bull) (LD. II, Pl. 21).

In the rebate on the south side of the doorway (door embrasure); three registers each containing an animal facing in to right; these probably belong to the scene on the east wall (LD. II, Pl. 22 a).

East wall, over the doorway: a boating scene; two river boats proceeding to right; one is sailing and the other is being paddled; on each a crew of fourteen and Mer-ib; flat-bottomed boats; inscriptions (LD. II, Pl. 22 d).

North doorjamb: Mer-ib standing facing out to right with small son (Mer-ib-she); labelled 'viewing the *pwt hrw* brought from the King's estates' followed by list of offerings; below, facing Mer-ib are two men standing, one reading a papyrus on which is written a list of offerings and the other carrying a box of ointment jars and a linen garment. (LD. II, Pl. 22 b).

South doorjamb: Mer-ib leaning on staff, facing out to left; labelled 'viewing sealed supplies brought from the King's estate', followed by list of linen, ointment, &c.; below are three of Mer-ib's children (girl holding

father's staff, Nensezerka); and in front boy and girl kneeling facing in to right (Khufuw-mery-neteruw and Sedenet) (LD. II, Pl. 22 a).

Entrance façade panels in entrance embrasure: on each side Mer-ib stands facing in, with staff and wand with a son (Mer-ib-sheer on north, Khufuw-mery-neteruw on south) between him and staff (LD. II, Pl. 18).

Entrance: drum over doorway; titles and name in relief.

Architrave over doorway: offering formula in two horizontal lines; combined formula in name of Mer-ib.

Serdab: no serdab.

Shafts in G 2100-I-annex: two shafts in mastaba B on north and C on south; two shaft mastaba; for shafts A, D-F, see G 2100 above.

Shaft G 2100-I-annex B: secondary shaft; 1.8×1.8 m.; — 10.9 m. in rock; lined above with masonry, 4.9 m.; eight courses.

Chamber: at 0.9 m. above bottom of shaft; type 3 bf; on south; 4.15×3.15 m. and 1.45 m. high; area, 13.07 sq. m.; capacity, 18.95 cu. m.

Passage: 1.55×1.0 m. and 1.2 m. high.

Blocking: by LD. I, Pl. 22, the passage was blocked with portcullis slab, 1.55 m. high and 0.3 m. thick; blocking probably type I b (1).

Burial: Lepsius found the remains of an adult male skeleton but no traces of coffin or of objects.

Shaft G 2100-I-annex C: chief shaft; 1.8×1.95 m.; — 16.4 m. in rock; lined above with masonry, 4.1 m.; eleven courses.

Chamber: type 3 br; on south; 3.05×2.95 m. and 1.95 m. high; area, 8.99 sq. m.; capacity, 17.52 cu. m.

Passage: 1.45×1.0 m. and 1.15 m. high; entering at roof-level with step down of 0.8 m.

Blocking: destroyed, but at the top the passage on the shaft side is a rebate of 0.15 m. high and 0.25 m. deep; this indicates a blocking of vertical slab or slabs backed on inside by interior blocking of some sort.

Coffin pit: along west side; 2.2×0.95 m. and 0.3 m. deep; Lepsius found frags. of wooden coffin and bones of a female skeleton.

Canopic pit: in SE corner; 0.5×0.5 m. and 0.45 m. deep with slab cover.

Objects found by Lepsius in SE corner of chamber:

- (1) RBrW: large neckless shoulder-jars; 3 examples, c. 30 cm. high.
- (2) RW: small models, neckless shoulder-jars; 12 examples; h. 4.6 cm.; d. 6 cm.
- (3) RW: small model basin; 9 examples; d. 7.0 cm.; h. 1.5 cm.
- (4) Mud: jar stoppers.
- (5) 'Eine kleine verzierte Kugel.'

G 2100-II-annex: built against the south end of G 2100-I-annex: with exterior stone chapel projecting eastwards.

Excavated: by Junker in 1912; see Junker, *Giza II*, p. 97.

Name: 'Princess' Nensezerka.

Mastaba: type IX a (2); rubble-faced core cased with w-masonry of grey nummulitic limestone; 8.85×8.0 m.; area, 70.8 sq. m.; prop. 1/1.11; height, 3.40 m.

Increased in size by addition against the east face containing a chapel of type (8 e); measuring outside 9.5×3.6 m. with area of 34.2 sq. m.; east of this stands a portico and open court, 6.0×5.45 m. with area of 32.7 sq. m.; total area of chapel addition, 66.9 sq. m.

Total area of mastaba and additions, $70.8 + 66.9 = 137.7$ sq. m.; height of mastaba, 5.0 m.; height of chapel, 2.83 m.; height of court wall, 2.5 m.

Chapel: exterior stone chapel of type (8 e) consisting of offering-room (a), pillared portico (b), and open court (c).

(a) N-S offering-room with two niches in west wall; 6.6×1.35 m.; area, 8.91 sq. m.; prop. 1/4.88; entered from east by doorway in middle of east wall.

(b) portico with two side walls (north and south), and roof supported on two pillars; floor area including pillars, 4.65×2.1 m. area, 9.76 sq. m.; approached by a c.b. ramp ascending from floor of court to floor of portico (h. 0.4 m.); doorway to room (a) in west wall not in axis.

(c) open court enclosed by walls with batter on outside and rounded moulding on top; 3.8×2.55 m.; area including ramp, 8.89 sq. m.; entered from east by doorway at north end of east wall; the ramp is not in the E-W axis of either portico or court; the doorway from portico to room (a) is in E-W axis of room (a), but not of the portico.

Total floor area of rooms (a) and (b), 18.67 sq. m.

Total floor area of (a), (b), (c), 27.56 sq. m.

Decoration of Chapel:

West wall, south *ka*-door; decorated in sunk relief with incised inscriptions.

Architrave with double offering formula; on left end Nensezerka seated at table of bread facing to right.

Tablet: usual table scene with ideographic list and short list of offerings.

Cross-bar: with titles and name.

Drum: with titles and name.

Backs of outer niche, on each side Nensezerka standing facing in.

West wall, north *ka*-door: like south *ka*-door, but tablet damaged.

Decoration in portico, in sized relief:

Entrance to room (a): architrave over doorway; on left end Nensezerka seated at table of bread facing to right; offering formula of the combined form.

Drum over doorway: titles and name.

Western sides of pillars in portico: on each side standing figure of Mer-ib facing in (to right on north and to left on south) with Nensezerka between him and his staff.

Eastern sides of pillars in portico: on each side standing figure of Nensezerka facing in (to left on north pillar and to right on south pillar); titles and name.

Shafts in G 2100-II-annex: two shafts, A on north and B on south, but a little farther to west.

Shaft G 2100-II-annex A: 1.6×1.6 m.; — 4.48 m. in rock; lined above with rubble plus masonry, 5.12 m.

Chamber: type 4 b (1); on north; 3.4×3.0 m. and 2.0 m. high; area, 10.2 sq. m.; capacity, 20.4 cu. m.

Passage: 1.0×1.3 m. and 1.7 m. high; step down from floor of passage to floor of chamber, 0.29 m.

Blocking: probably with masonry, type II b (1).

Coffin: limestone coffin with *krst*-lid; outside, 2.2×0.9 m. and 0.8 m. high; inside, 1.8×0.5 m. and 0.6 (?) m. deep.

Canopic pit: 0.5×0.5 m. and 0.5 m. deep.

Burial: skeleton dismembered and scattered by thieves; also animal bones from meat offerings.

Shaft G 2100-II-annex B; 1.6×1.6 m.; no chamber; type 7 X.

G 2100: Later constructions and intrusions: in the street east of G 2100 and G 2100-I-annex, are a number of later shafts some of them against the east faces of the two mastabas: these represent a number of small mastabas built on a little higher level and now badly denuded; the groups of shafts were numbered from south to north, G 2102, G 2103, G 2104, and G 2105, and G 2106 (at NE corner of G 2100).

G 2110: northern core in western line of western group: finished with white casing and exterior white chapel.

See Map 5 and Figs. 22 (shaft), 109 (chapel), 205 (north *ka*-door), 240 (section of mastaba), 241, 242 (east and west walls of chapel).

See Pls. 29–33, 34 a–f.

Name: Nofer, *imy-rj sš prw, hrp pr nfrw, imy-rj prwy hq, imy-rj sty dfr, imy-rj sš hrt-c nswt, hry ššr nswt m swt nb, imy-rj hkr nswt nb, imy-rj pr chs, wr md šmew, sšb, nht hrw, hki ht, rh nswt.*

Wife: *mitrt* Meresankh (?), possibly to be identified as mother of Kanofer (G 2150).

Excavated: in 1905–6 under direction of A. M. Lythgoe; re-examined in 1932–7.

Mastaba: core of type II a; 21.6×12.0 m.; area, 259.0 sq. m.; prop. $1/1.8$; h. 4.25 m.; average height of stepped courses, 0.33 m.; average width of steps, 8.2 cm.

Cased with fine white x-masonry, dressed to smooth sloping surface; 24.8×14.4 m.; area, 357.12 sq. m.; prop. $1/1.72$.

Cased mastaba of type IX with two niches in east face; southern niche enclosed in exterior chapel of type (2 b). Chapel: exterior chapel of type (2 b) of white limestone, built against the casing around the south niche; measures outside, 7.0×2.8 m. with area of 19.6 sq. m.; contains one room (a).

(a) N-S offering-room, 3.7×1.15 m.; area, 4.25 sq. m.; prop., $1/3:21$; in west wall the face of the cased mastaba is exposed with the south niche showing in north end of that wall; entered from east by doorway in south end of east wall.

Exterior c.b. chapel north of stone chapel; remains of c.b. walls but rooms not to be traced.

Decoration of Chapel: decoration in fine relief with colouring not preserved; chapel was attacked by thieves before 1903, and frags. of the reliefs have been found scattered in several museums: the decoration has been reconstructed by W. S. Smith.

West wall: *ka*-door; at north end of wall; cut in casing of mastaba; architrave missing; tablet and cross-bar in Bar-racco Collection in Rome (see Weill, *II^{me} et III^{me} Dynasties*, Pl. IV); and rest of stela not decorated (Pl. 31 c).

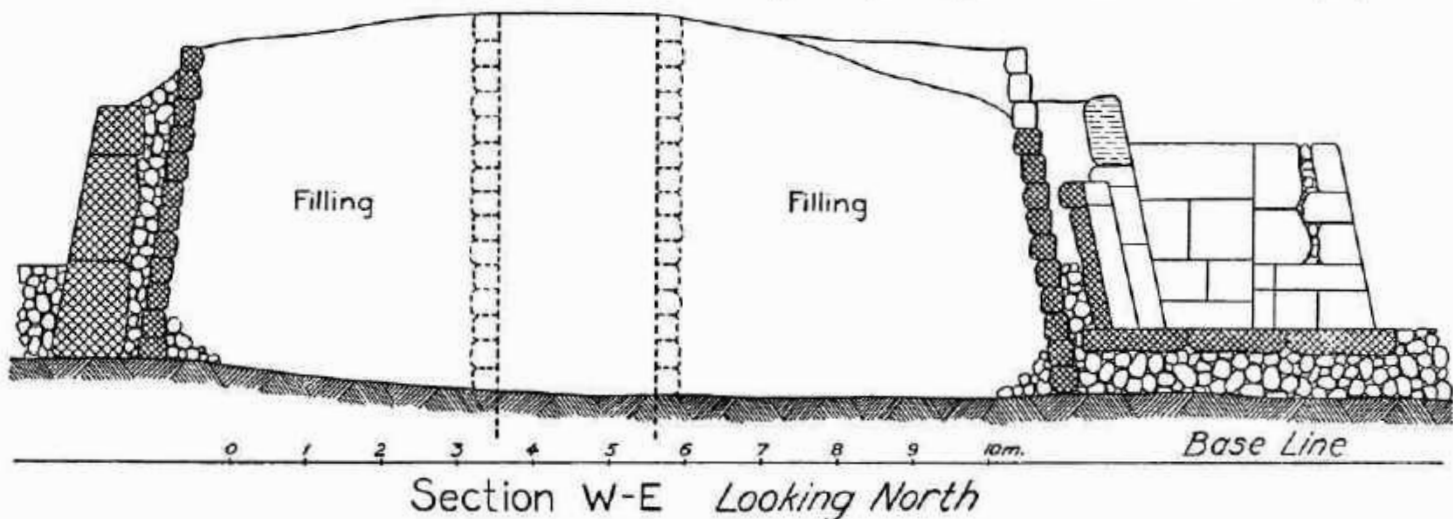


Fig. 240. G 2110

Tablet: Nofer seated at table of bread facing to right; not in traditional attitude (left hand resting on right knee); ideographic list under table and short list above bread and to right of tablet on right side, old compartment list with linen list and granaries.

Cross-bar: titles and name.

West wall south of niche; chief scene; partly in place, partly found in debris of room, and partly in Copenhagen Museum (see Mogenson, *La Glyptothèque ny Carlsberg*, Pl. XCIII, No. A 667); offering scene; Nofer and wife seated on one chair facing in to right; in front of them facing to left, two registers are preserved, (1) men bringing the accessories and the materials of the funerary meal, (2) continuation of reg. 1 and a slaughter scene (three men cutting up two bulls). (Fig. 241; Pl. 32.)

West wall north of niche: narrow wall not decorated.

North wall: broken at top, but apparently not decorated.

South wall: Nofer and wife standing facing in to right (fragments of upper part of wall in Boston); rest of wall left undecorated for folding back wooden door. (See Pl. 33.)

East wall: badly damaged; block in Copenhagen Museum (see *l.c.*, Pl. XCIV, 673); presentation scene; on left, Nofer and wife standing facing out to right; in front on right, two registers are preserved with figures facing to left; (1) two scribes and men bringing in birds and animals; (2) two scribes and men bringing in live animals (Pl. 31 a, b); frags. showing procession of estates facing to right may come from the top of the wall.¹

North doorjamb: now in Boston; Nofer standing with staff and wand, facing out to right; above, titles and name; below four scribes standing facing to left: the fourth scribe is *Snmw-k* identified as owner of the small mastaba G 2041 west of G 2110 (Pl. 30 b).

South doorjamb: now in Louvre (see Capart, *Documents II*, pl. 23); Nofer seated at table of bread (small loaves)

¹ As drawn in Fig. 242 but it is perhaps more probable that they come from the upper west wall adjoining the false-door.

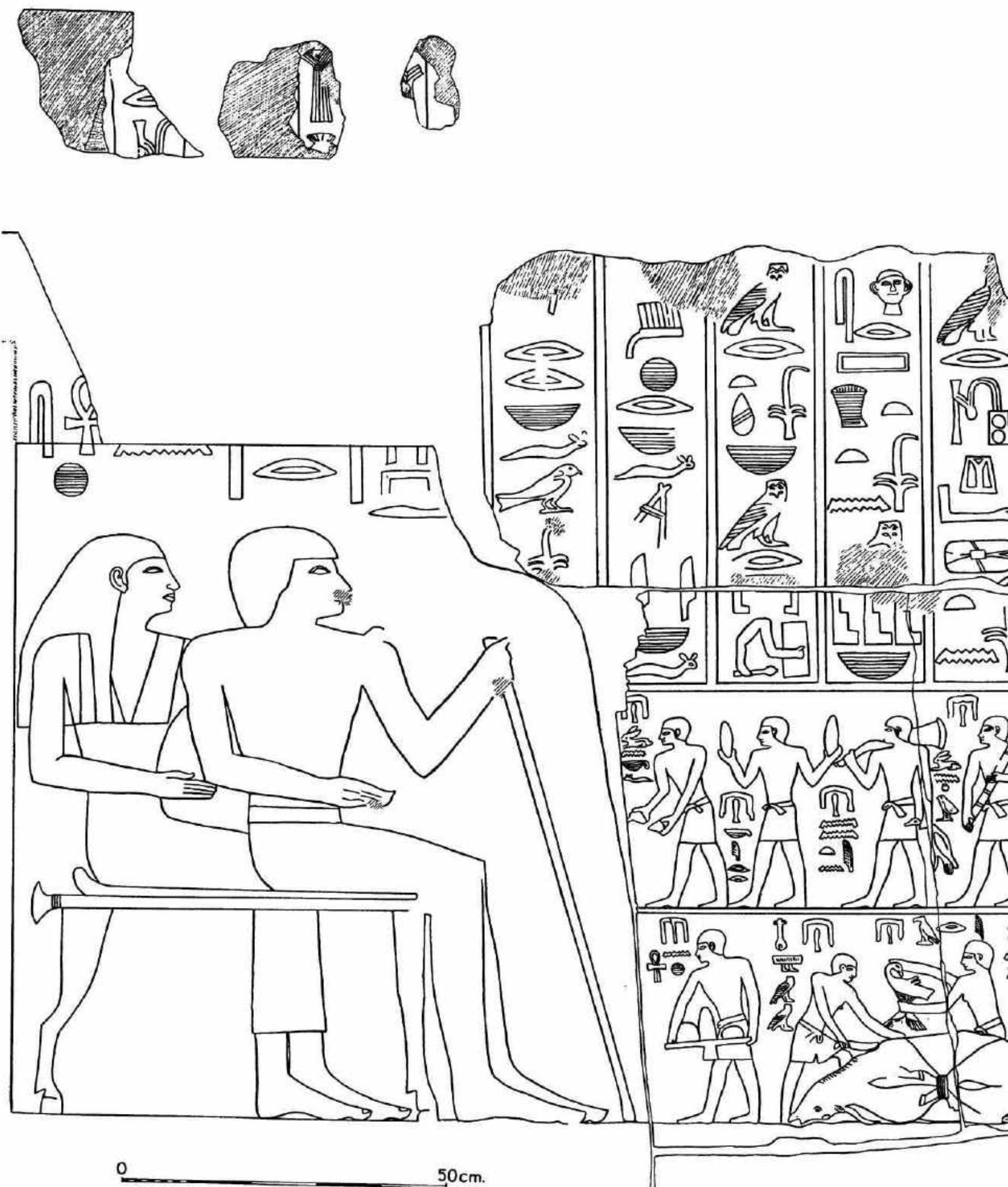
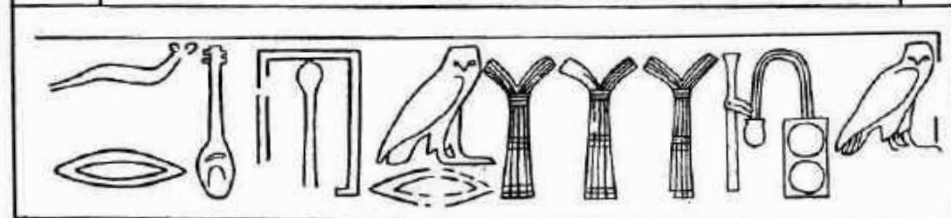
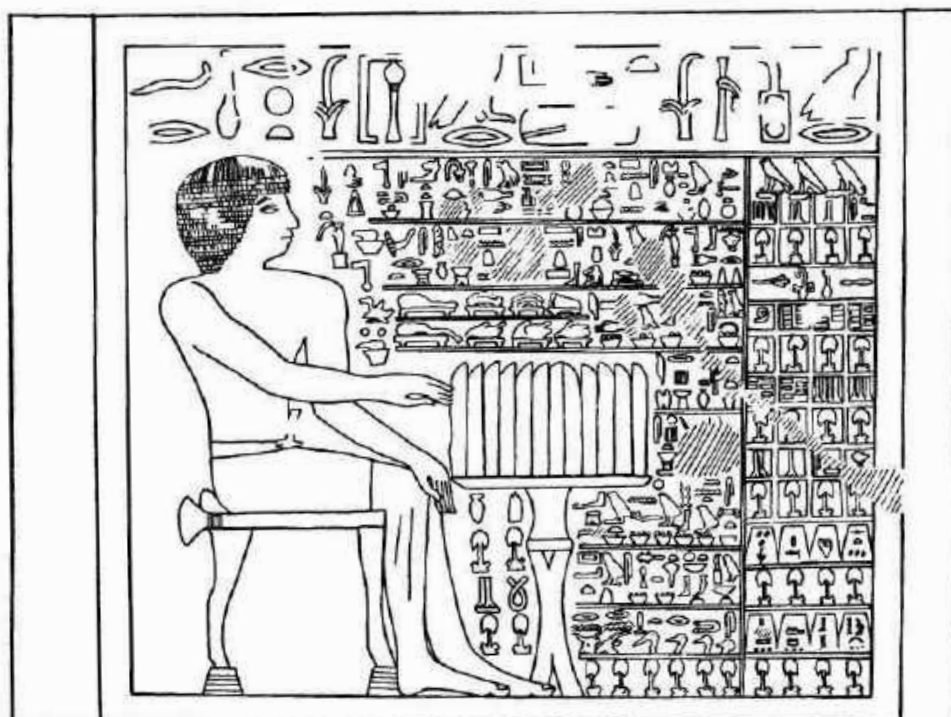
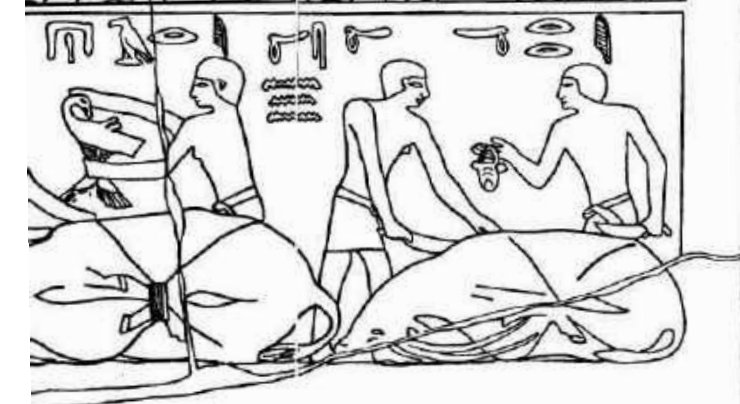


Fig. 241. G 2110, West wa



Fig. 241. G 2110, West wall, restored



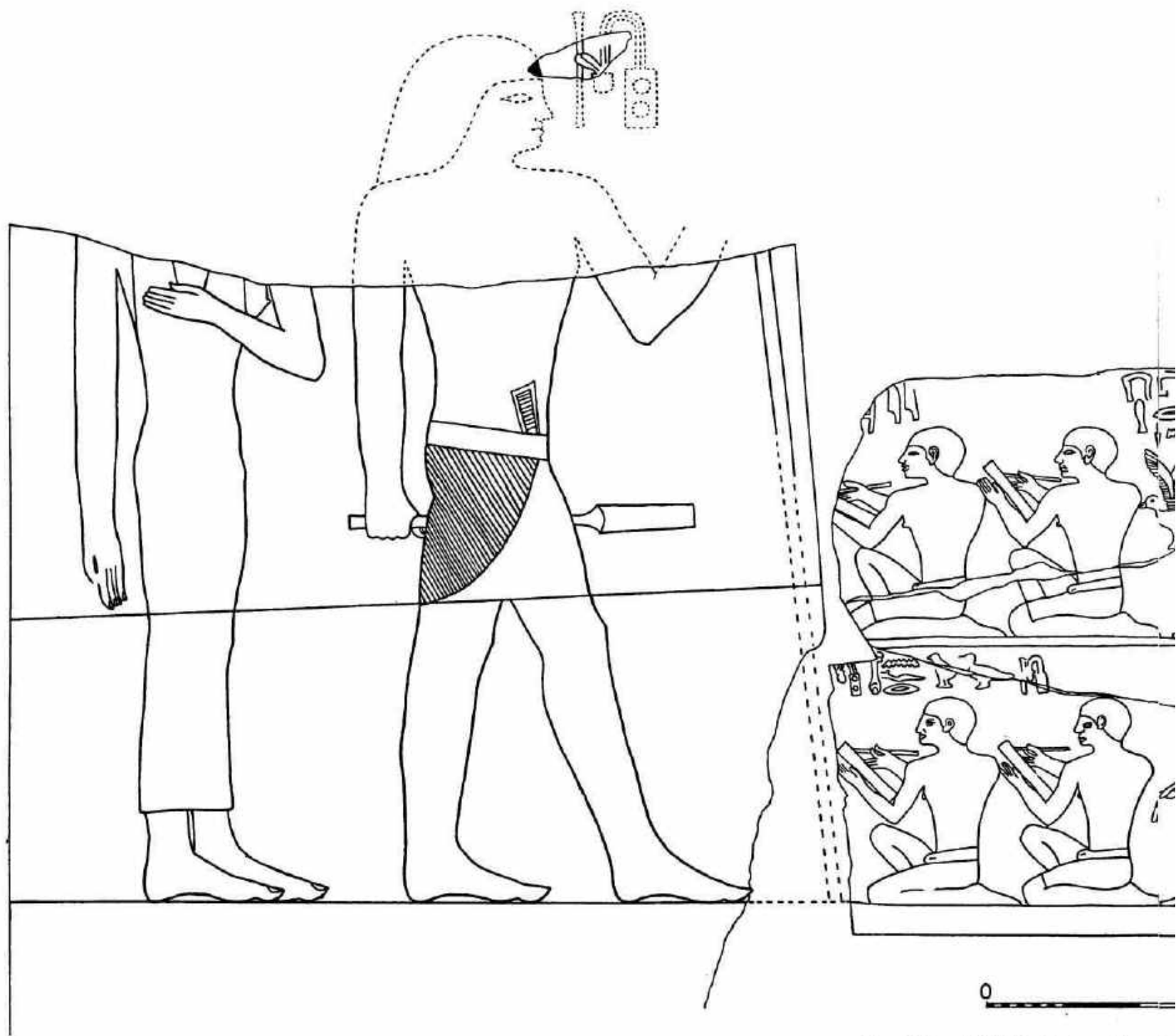


Fig. 242. G 2110, East wall, recto

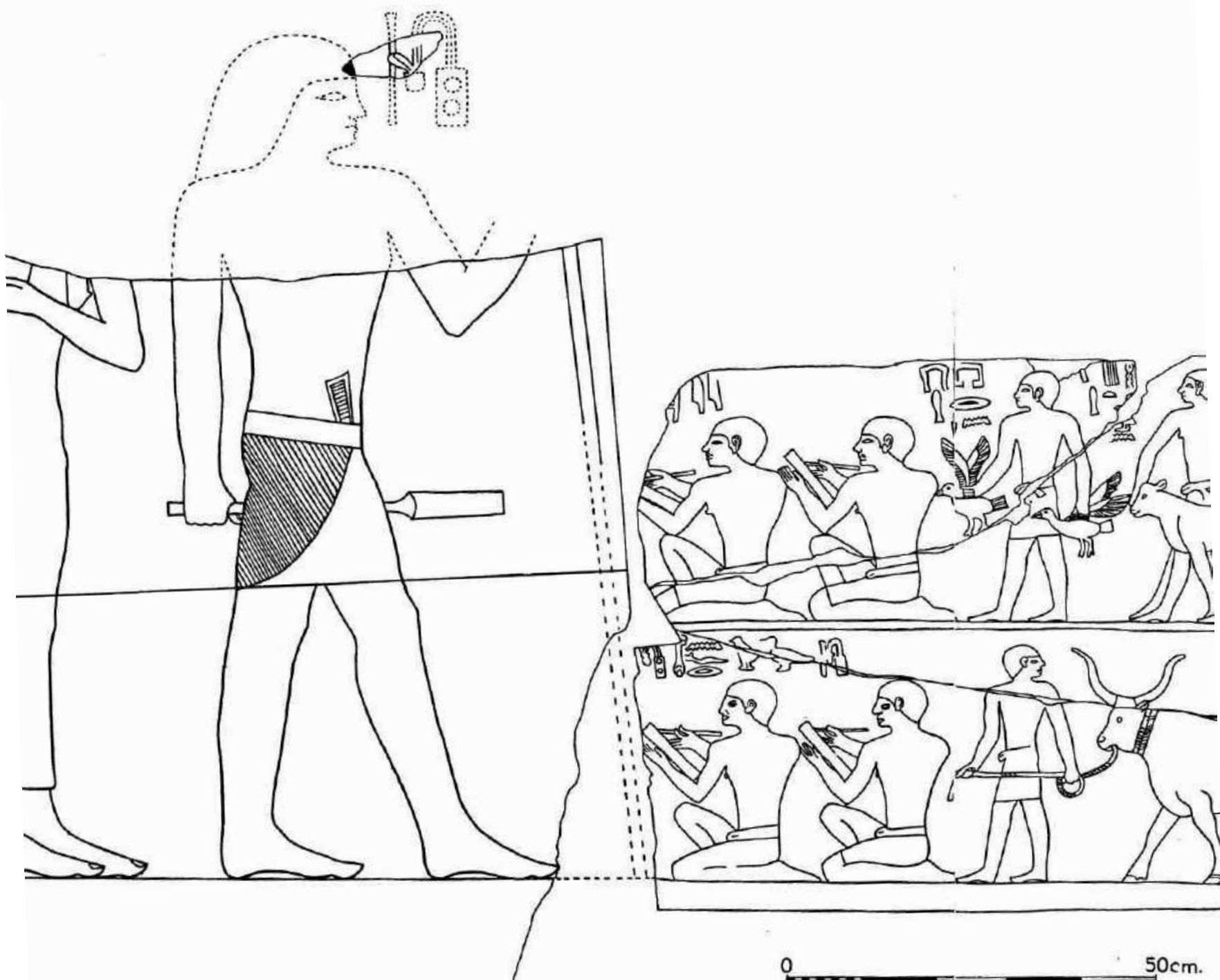
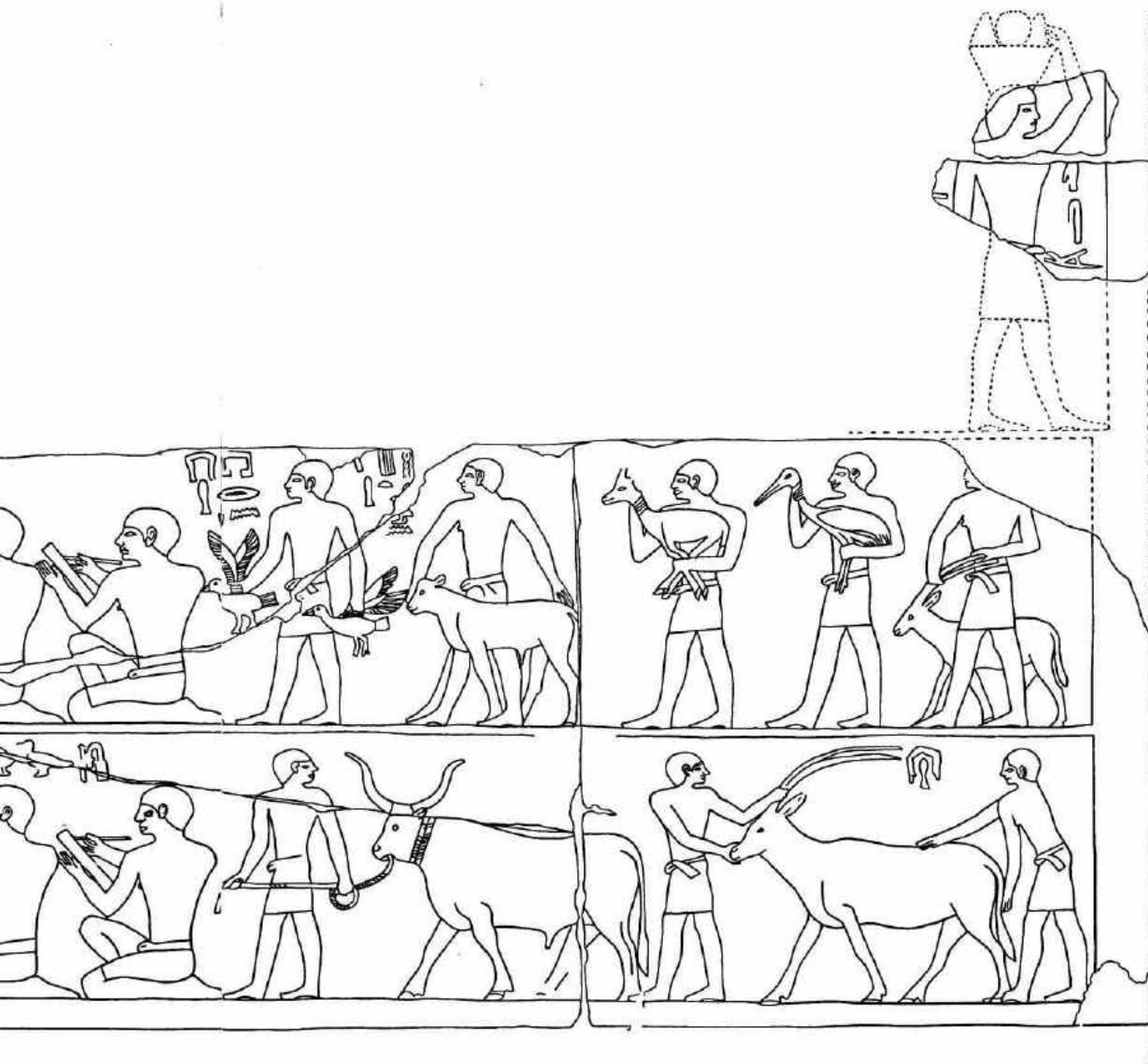


Fig. 242. G 2110, East wall, restored



0 50cm.

G 2110, East wall, restored

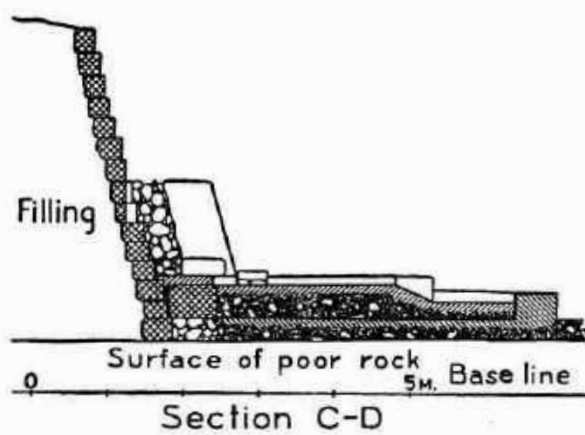
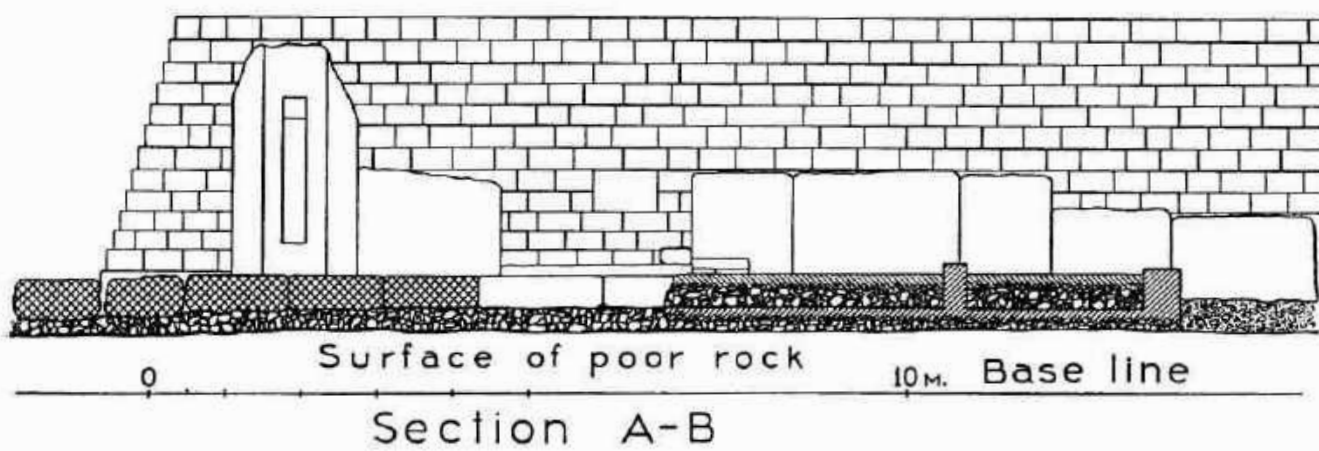
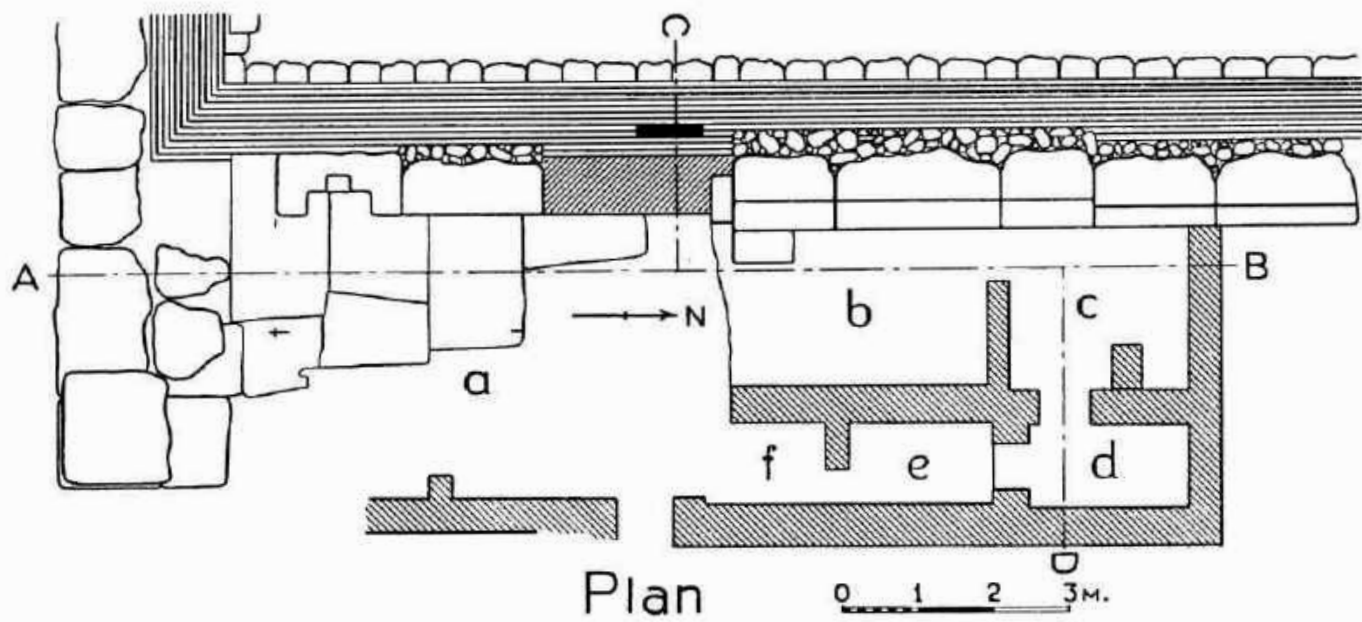


Fig. 243. G 2120

facing out to left; ideographic list and short list of offerings: above, titles and name: in front on left, three registers of two figures each facing in to right (1) *wt*-priest and *hry wdb*; (2) two *hmtw-ks* censuring and bearing offerings; (3) two *hmtw-ks* performing purification and bearing offerings. (Pl. 30 a.)

Architrave and drum missing.

Façade panels of embrasure, not decorated.

Shaft G 2110 A: sole shaft, north of middle; one-shaft mastaba; 2.1×2.05 m.; — 11.05 m. in rock; lined with drab masonry above, 4.25 m.; thirteen courses; portcullis groove on each side at south end of east and west wall: 0.5×0.35 m.; the groove on the east was not cut in the rock.

Chamber: type 4 a (2); on south, 3.45×3.8 m. and 2.05 m. high; area, 13.11 sq. m.; capacity, 26.87 cu. m.

Passage: 0.9×1.85 m. and 2.05 m. high.

Blocking: type I b (1); interior blocking of white blocks set in plaster partly preserved to height of 0.55 m.; portcullis slab, broken, original size 2.25 m. high, 2.3 m. wide, and 0.4 m. thick.

Coffin: white limestone coffin with flat lid (type d); broken in frags., partly in shaft and partly in chamber. See Pl. 34 a, b.

Reserve head: white limestone; found in debris at bottom of shaft; h. 0.172 m.

See Pl. 34.

Later constructions and intrusions:

Against the south end of G 2100 stand two small mastabas, G 2111 on east and G 2113 on west.

Behind G 2110, on west, stood the mastaba G 2041 of the scribe Sennuw-ka; east of G 2111 stand three small mastabas, G 2112 a, b, c.

In the street east of the mastaba, north of the chapel, were several destroyed mastabas represented by intrusive shafts.

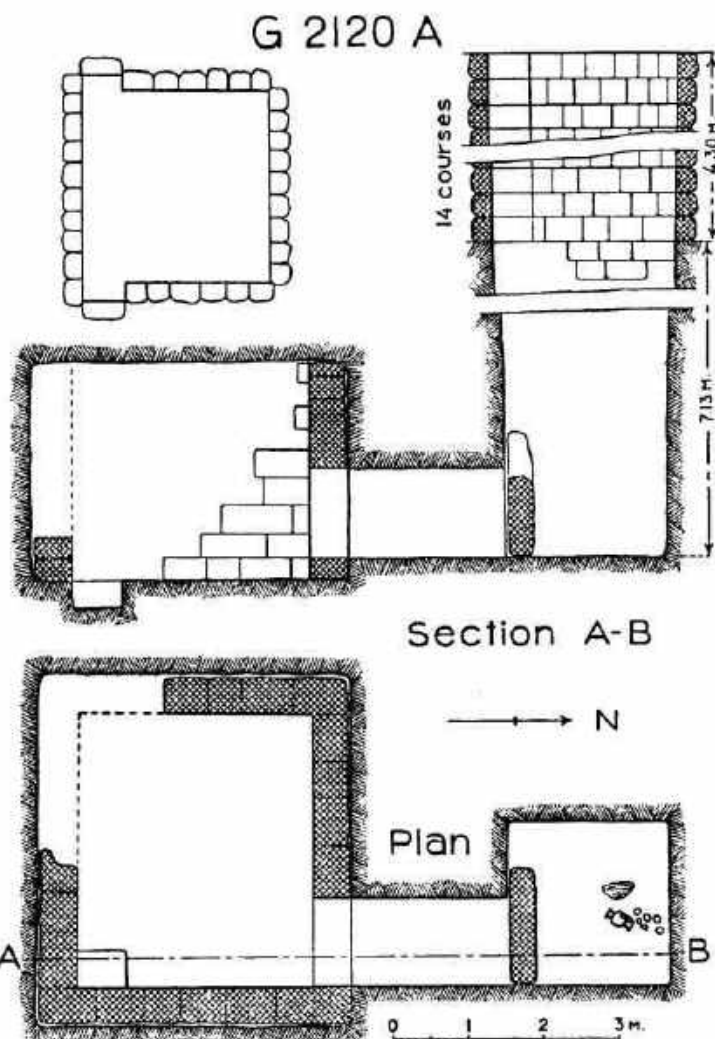


Fig. 244

G 2120: core at southern end of line 2 of the western group: with unfinished white casing and unfinished exterior stone chapel.

See Map 5 and Figs. 202, 243 (chapel and south *ka*-door), 244 (shaft), 245 (objects), 246 (inscribed granite drum).

See Pls. 34 g, 35 a-d, 39 a, 43 d and f.

Name: Seshat-sekhentyuw. $\text{𓆎} \text{𓆏} \text{𓆑} \text{𓆒}$; *hry-[hb] hry tp?*

Excavated: in 1905-6; re-examined in 1932-7.

Mastaba: core of type II a; 28.0×12.4 m.; area, 347.2 sq. m.; prop. $1/2.25$; average height of stepped courses of drab retaining wall, 0.30 m.; average width of steps, 0.8 cm.; height of mastaba as preserved, 4.55 m.

Casing of white limestone (partly y-masonry) begun but left unfinished; size of unfinished mastaba of type IX-y; 30.4×14.8 area, 449.92 sq. m.; prop. $1/2.05$; lower courses of casing traced on south around SW corner and on east behind chapel and northwards; partly preserved on north end and west; a monolithic stela was in place in the west wall of the chapel.

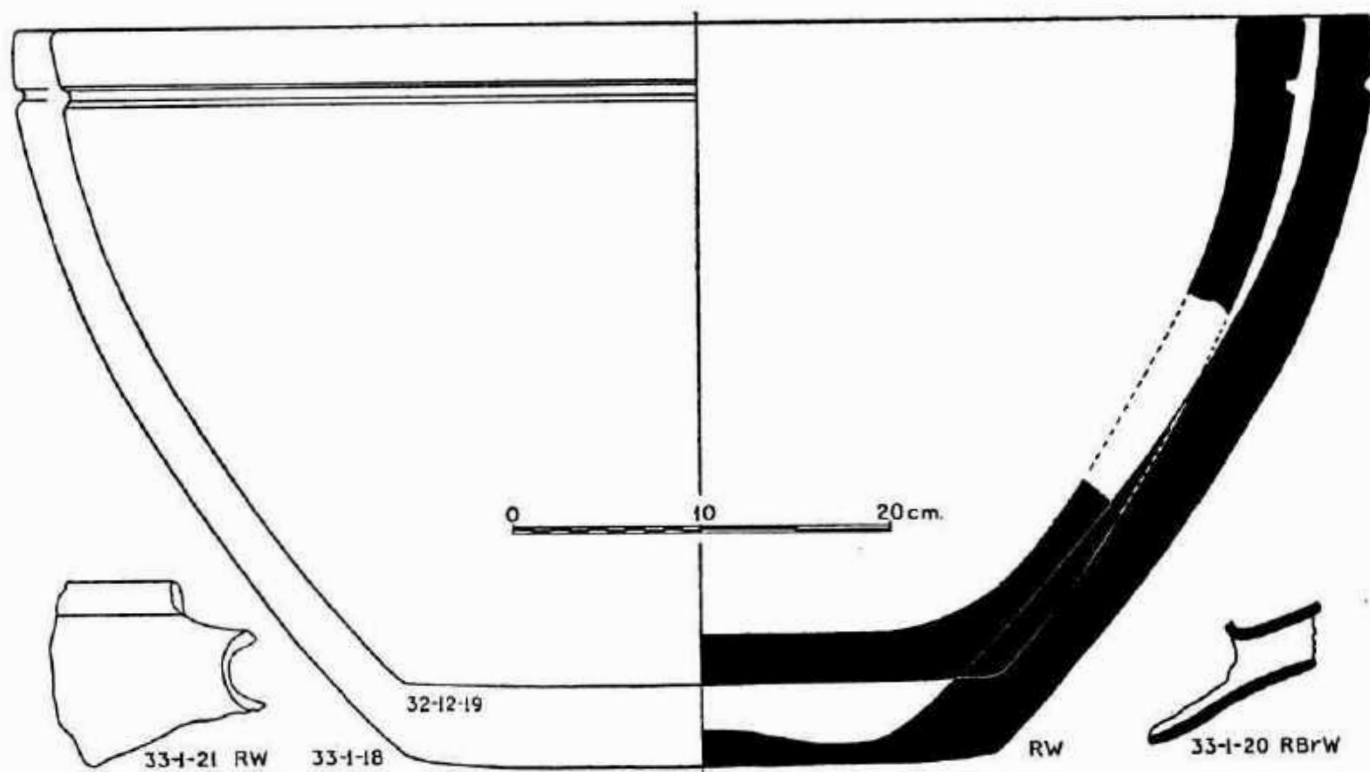
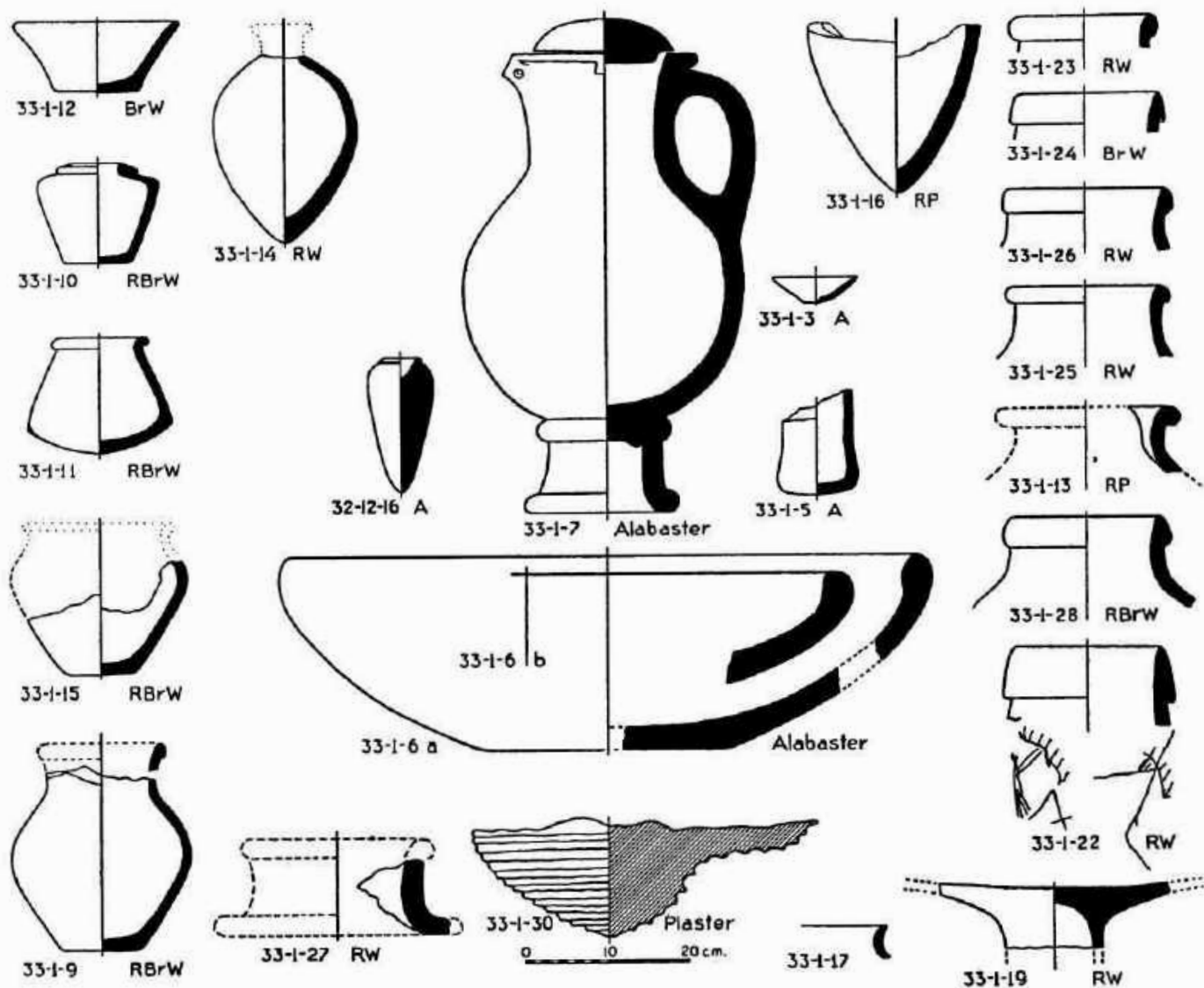


Fig. 245. G 2120

Chapel: in the east face of the core-mastaba of type II-a is an emplacement for a slab-stela at 6.45 m. from the SE corner of that core; the emplacement measures 81×53 cm., with a depth of 10.5 cm.; this emplacement fits the size of the slab-stela of Seshat-sekhentyuw (79.8×51.6 cm.; th. 9.9 cm.), of which two large fragments were found in debris east of the foundation platform of the stone chapel; this slab-stela indicates that a c.b. exterior chapel of type (1 a) was designed; possibly it was built, but the only evidence is the lower floor in the later exterior c.b. chapel and a fragment of wall in the floor of room (c).

Later when the white casing was designed and partly built, an exterior white stone chapel of type (2 b) was planned and partly constructed; against the east face of the SE corner of the core-mastaba, a stone platform was built about 7.6×4.3 m., but is now partly destroyed on north and east; on the west were set the casing stones of the enlarged mastaba which were to form the vertical west wall of the offering-room (a) of the exterior stone chapel.

- (a) one-niched N-S offering-room: the floor was marked by construction lines on the foundation platform, but the floor was not dressed as the room was never completed; the construction lines indicated a room, 3.55×1.5 m.; area, c. 5.32 sq. m.; prop., c. $1/2.36$; the southern stone in the west wall was a monolith, 3.1 m. high and 1.65 m. wide; in the middle of this slab is cut a traditional *ka*-door (tablet, cross-bar, and inner and outer niches), outer niche 0.85×0.3 m.; inner niche, 0.3×0.2 m.; on the face of the slab north of the false-door is a quarry mark in red paint reading *hwt sp 12*, month 2 *smw* . . . ; I interpret this date as year 23 of Cheops; no indication of the doorway was preserved, but it may be assumed that the entrance was by a doorway in the north end of the east wall; probably this room was completed with c.b. walls as part of the later exterior c.b. chapel; the upper floors in rooms b and c were on a level with the top of the platform.

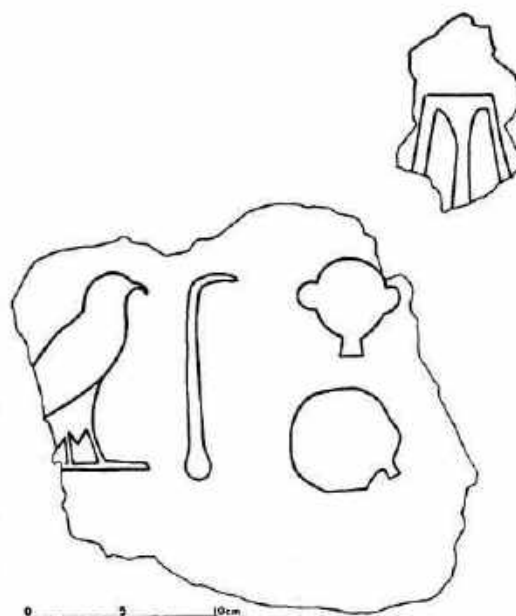


Fig. 246. G 2120

Exterior c.b. chapel north of the stone chapel; built against the sloping face of the unfinished casing; north of the slab-stela are preserved c.b. walls, indicating about five rooms but the connexion with the stone chapel has been destroyed; rooms (b) and (c) along the sloping face of the casing with floor level high; rooms (d), (e), and (f), east of (c)-(b) with floor at lower level.

- (b) N-S room with its southern end destroyed: as preserved, 3.4×2.05 m.; area, 6.97 sq. m.; at the south end of the western side, a stone offering-slab rests on a low brick platform against the sloping casing, 0.8×0.4 m. and 0.2 m. high; plain doorway to room (c), in west end of north wall; with two mud floors laid on packed limestone debris; the lower floor is 0.32 m. above rock, and the upper floor is 0.4 m. above the lower.
- (c) a small N-S room north of b: 2.4×2.1 m.; area, 5.04 sq. m. with doorway to (b) in west end of south wall; doorway to room (d) in south end of east wall; north of this doorway is fragment of an older c.b. wall which appears to belong to an older construction, with two floors like room (b); in the doorway to room (d) the upper floor slopes to the east to the level of the floor in that room which corresponds to the lower floor in rooms (b) and (c).
- (d) a small N-S room east of room (c) and north of room (e): 2.15×1.1 m.; area, 2.36 sq. m.; doorway to room (c), in south end of west wall; doorway with jambs, to room (e), in south wall; floor on lower level as in (b) and (c), with slope up to higher level through the doorway to (c).

Around the walls of rooms (b), (c), and (d), both on the plastered c.b. walls and the sloping stone casing of the mastaba is a white stripe, 3.5 m. cm. high on the vertical wall and 3.5 cm. wide on the floor; the stripe follows the slope down from the floor of (c) through the doorway to (d) and in (d) is on the lower level.

- (e) N-S corridor south of (d): 1.9×1.07 m.; area, 2.03 sq. m.; doorway with jambs to room (d), in north end; on south side of this doorway the floor has a step down of 5 cm. from the level of the floor of room (d); from this

step southwards the floor on the lower level slopes gently downwards through rooms (e) and (f); at the southern end of room (e) is a thin crosswall with a plain doorway on the east side connecting rooms (e) and (f).

(f) south of room (e): 1.6×1.07 m.; area, 1.71 sq. m.; apparently continuation of the corridor (e); floor on lower level continuing southwards slope of room (e); doorway to (e), in separating wall at north end, on east; entrance doorway from south at south end with doorjamb on east preserved.

Total area of (b)-(f) 18.11 sq. m., to which is to be added the area of one or two destroyed rooms.

Total area, (a)-(f), 23.43 sq. m.; to be increased as the area (b)-(f).

South of (f) is a doorway from the east, the southern side of which is formed by a N-S wall 3.4 m. long with a beginning of a crosswall on its western side, but all the rest of the walls in this area are destroyed.

Fragments of red granite drum: in the debris low down east of the slab stela were found fragments of an inscribed drum of coarse red granite; the largest fragment measures 24 cm. long and 27 cm. high with a thickness of 10 cm., but with broken surface on the back; other fragments from drum and from the rectangular ends built in the two sides of the emplacement of the drum; two fragments bore incised signs facing to right (... *hry*-[*hb*] ... *hry tp* ... [*Ššit-šhn*] *tyw*); the original place of this granite drum can only be conjectured; it might have been over a doorway or above a niche constructed in the wall in front of the slab-stela; in this place is a gap in the white casing, 2.5 m. long (N-S); the northern end of the stone on the south, the second vertical slab forming the west wall of room (a), was never dressed; but the southern end of the sloping casing stone on the north, was smoothly dressed; the foundation course of the white casing was in place in this gap and the gap was actually in the second course of the casing; in the gap, on the top of the foundation course, is a layer of c.b., 15 cm. high but weathered; on the northern side of the gap a single white stone was found in place resting on the c.b. platform, 27×65 cm. and 15 cm. high; it may be suggested that that stone was part of a wide deep niche built of small blocks but reaching above the slab-stela, where it was crowned with the granite drum and perhaps with a cross-bar and tablet above it (cf. niche of G 7220); in that case, the slab-stela would have been visible in the back of the wide deep niche like the seated figure in G 7220; the doubt of this reconstruction is raised by the layer of c.b. below: but that fact is not decisive for in any case this construction would have been in the last stage of the chapel.

Slab-Stela: of Prince Seshat-sekhentyuw: in fourteen fragments, found in debris in front of the emplacement in G 2120 and north-west and west of that mastaba; fits the emplacement in east face of the core of G 2120; no other emplacement in this cemetery of this large size. All fourteen fragments fit together and the stela is nearly complete: 79.8×51.6 cm., th. 9.9 cm.

Man seated at table of bread, but badly destroyed, in traditional attitude, facing to right; full wig; under table ideographic list (on left bread and beer and on right *šš*-ointment and *mnht*-linen); in front of face is a *kbh*-vase and the *tr*-sign; to the right of this is a short list of offerings in two horizontal lines extending to linen list (separated by line in relief); with small picture list under it (meat, trussed fowl, &c.); under this list to the right of the table is an ideographic list of animals and below this a compartment list in two horizontal lines: the upper line names panther skin and other garments while the lower line is a list of stone vessels; each compartment contains a rooo-sign: the right side of the slab is occupied by an old compartment list (linen list) showing four kinds of linen and at the bottom a row of granaries (four visible).

Shaft G 2120 A: sole shaft; one-shaft mastaba; shaft north of middle; 2.5×2.5 m. at top; 2.15×2.15 m. at bottom; —7.13 m. in rock; lined above with drab masonry, 4.3 m., fourteen courses; portcullis grooves in masonry but not cut in rock; on east, 0.6×0.25 m.; on west, 0.5×0.2 m.

Chamber: type 1 al, lined and paved; on south; lined chamber, 3.1×3.6 m. and 2.55 m. high; area, 11.16 sq. m.; capacity, 28.45 cu. m.; rock chamber, 4.15×4.65 m. and 2.88 m. high; area, 19.29 sq. m.; capacity, 55.55 cu. m.

Passage: in rock, 2.10×1.17 m. and 1.2 m. high; lengthened by opening in lining to 2.55 m.; floor of passage on level with pavement step down from floor of passage to rock, 0.26 m.

Blocking: remains of interior masonry set in plaster; outside, portcullis slab, 1.55 m. wide, 1.65 m. high, and 0.3 m. thick.

Coffin: frags. of white limestone coffin with flat lid (type d) with rebate around lid on underside along the edge; found in frags. partly in chamber and partly in shaft.

Canopic pit: in SE corner: 0.65×0.5 m. and 0.68 m. deep (0.35 m. in rock).

Lining and pavement: lining preserved to about half of its height except around SW corner of chamber; pavement not preserved; red construction lines on walls and ceiling.

Filling of shaft: the debris at top was limestone rubbish and sand; under this were packed frags. of limestone reaching upwards from top of chamber for 4.3 m., consisting of broken lining blocks and pieces of sarco-phagus; this packing left a hole in SE corner of shaft which descended to top of portcullis; under this packing in bottom of shaft were the following objects (see Fig. 245, Pl. 35 b).

- 32-12-16: alab.: model jar with pointed base and rim around mouth (damaged) perhaps type S-VIII; h. 8.0 cm.; d. rim, top, 2.2 cm.; d. rim, bottom, 2.7 cm.; body, 3.6 cm. Pl. 43 d (4/2). See Fig. 245.
- 32-12-19: RW: frags. of one or more tubs; type D-LXXI a; h. c. 35 cm.; d. rim c. 68 cm.; d. base c. 32 cm. See Fig. 245.
- 33-1-3: alab.: model basin, type S-X a (1); h. 1.5 cm.; d. rim, 5.1 cm.; d. base, 1.7 cm. Pl. 43 d (4/3). See Fig. 245.
- 33-1-5: RP: lower part of cyl. jar; type B-LVII; h. 6.2 + cm.; d. base, 5 cm. Pl. 43 d (2/1). See Fig. 245.
- 33-1-6: alab.: frags. of two flat-bottomed bowls with contracted mouth; type S-X c; (a) h. c. 12 cm.; d. c. 40 cm.; (b) h. 7 + cm.; d. c. 40 cm. Pl. 43 d (4/1, 4/5). See Fig. 245.
- 33-1-7: alab.: one-handled jug; type S-XIV a (with ring stand of same piece); with domed lid; h. 29.8 cm.; h. ringstand, 5.8 cm.; d. rim, 11.4 cm.; d. neck, 9.0 cm.; d. body, 16.8 cm.; d. ring base, on flat bottom of jar, 4.8 cm.; d. upper roll rim of ringstand, 8.2 cm.; d. lower roll of rim of ringstand, 9.4 cm. Pl. 43 f. See Fig. 245.
- 33-1-9: RBrW: jar of type B-XVII c; h. 12.6 cm.; d. rim, 7.6 cm.; d. neck, 6.6 cm.; d. body, 10.8 cm.; d. base, 4.8 cm. Pl. 43 d (2/3). See Fig. 245.
- 33-1-10: RBrW: model neckless shoulder-jar; type B-LV a-m; h. 6.2 cm.; d. rim, 4.8 cm.; d. shoulder, 7.4 cm.; d. base, 4.2 cm. Pl. 43 d (1/2). See Fig. 245.
- 33-1-11: RBrW: two bag-shaped pots; type A-LI model; three models in frags. incomplete; h. 7.0 cm.; d. rim, 6.0 cm.; d. max. 8.8 cm. Pl. 43 d (1/3-5). See Fig. 245.
- 33-1-12: RBrW: model basin; type D-LXXIX a; 1 example and frags. of another; h. 4.4 cm.; d. rim, 10.4 cm.; d. base, 5.0 cm. Pl. 43 d (1/1). See Fig. 245.
- 33-1-13: RP: neck and rim of large jar; type A-II c (?); d. rim, 10.4 cm.; h. as preserved, 4 + cm. See Fig. 245.
- 33-1-14: RW: small jar of type A-VI b-m; h. 11.6 + cm. (c. 13 cm.); d. rim, 3.6 cm.; d. neck, 2.6 cm.; d. body, 8.4 cm. Pl. 43 d (2/2). See Fig. 245.
- 33-1-15: RBrW: base of small jar; h. 7.2 cm.; d. max. 10.8 cm. Pl. 43 d (2/5). See Fig. 245.
- 33-1-16: RP: base of small jar similar to type A-V or VI; h. 10 + cm.; d. max. 10.6 + cm. Pl. 43 d (2/4). See Fig. 245.
- 33-1-17: RP: frag. of rim of bowl with recurved rim; type C-XXXII or D-XXXVI; d. c. 25 cm. See Fig. 245.
- 33-1-18: mud ware (tub ware); frags. of one or more tubs; type D-LXXI a; h. c. 39 cm.; d. rim, c. 72 cm.; d. base, 28 cm. See Fig. 245.
- 33-1-19: RBrW: frags. of bowl table (?); type E-XXI a; h. 4 + cm.; d. max. 14 + cm. See Fig. 245.
- 33-1-20: RBrW: frag. from bowl with tubular spout; d. 20-25 cm.
- 33-1-21: RW, red wash: three frags. of basin with short tubular spout and roll rim; type XXXV; d. c. 30-5 cm. See Fig. 245.
- 33-1-22: WSR: frags. of two or more large jars of type A-II b; d. rim, 10 cm. See Fig. 245.
- 33-1-23 to 26: large pottery jars of type A-II b (see Fig. 245):
- (23) WSR: d. rim, 11 cm.
 - (24) BrW: d. rim, 11 cm.
 - (25) WSR: d. rim, 10 cm.
 - (26) WSR: d. rim, 10.5 cm.
- 33-1-27: RW: frag. of ringstand; type E-XXIV a; h. 4.5 + cm.; d. c. 15 cm. See Fig. 245.
- 33-1-28: RW coarse: rim of traditional offering-jar of type A-IV; d. rim, 10 cm. See Fig. 245.
- 33-1-29: WSR and RW: four or more jars of type A-II b; see above, 22-1-23 to 26.
- 33-1-30: plaster from inside decayed basket; basket used for carrying plaster in sealing burial chamber; h. 14 cm.; d., 42 cm. See Fig. 245.

Later Constructions and Intrusions: no intrusive structures in the space between G 2120 and G 2130; the casings of G 2120 and G 2130 nearly touch at floor-level; against the east face of the casing of G 2120 stands a small mastaba G 2121, separated from the street east of G 2130 by low c.b. wall running from the NE corner of G 2120 for 5.4 m., where it turns south for 4.4 m. to the NW corner of G 2140; thickness of wall 0.3 m., and height 0.1–0.15 m.

G 2130: in western group, second core in eastern line between G 2120 and G 2210.

See Map 5 and Figs. 19 (shaft), 112 (chapel), 196 (N *ka*-door), 247 (section of mastaba), 248 (chapel reliefs), 249 a, b (objects).

See Pls. 35 e–f, 36 a–f, 39 a.

Excavated: in 1905–6; re-examined in 1932–3.

Name: Khent-ka (?).

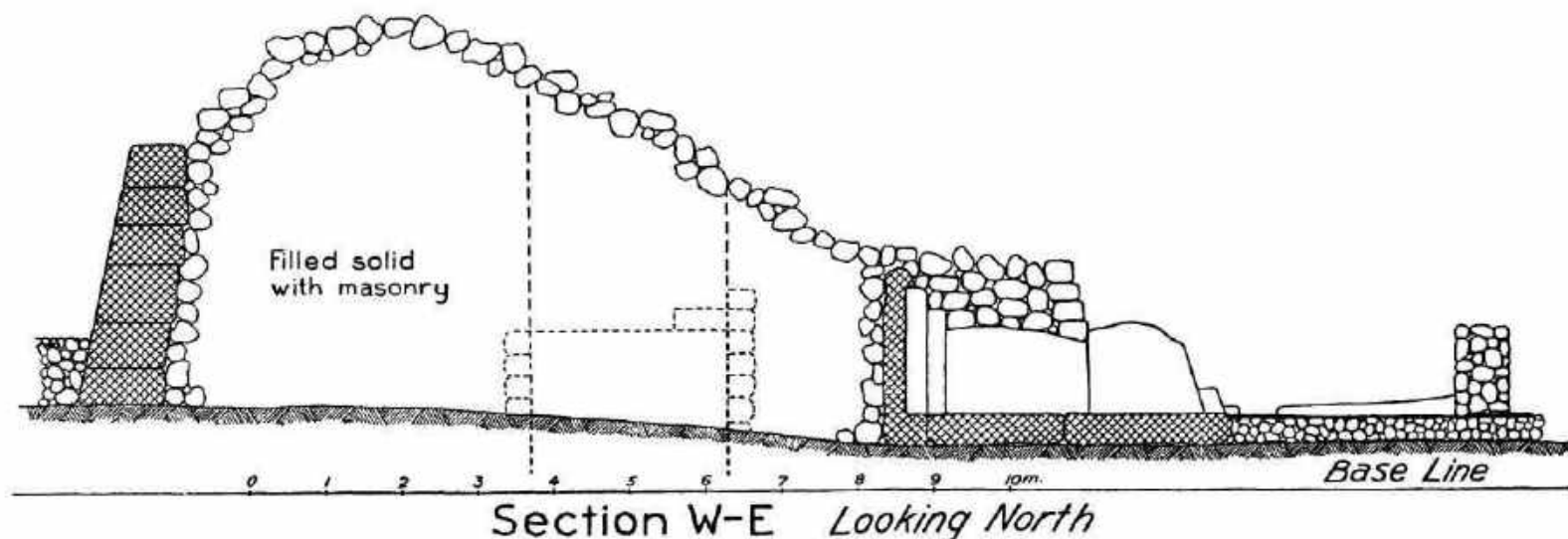


Fig. 247. G 2130

Mastaba: core type II b, with solid masonry filling and stepped retaining wall; 30.8×12.1 m.; area, 372.68 sq. m.; prop. $1/2.54$; average height of stepped courses 27.5 cms.; average width of steps, 5.5. cm.

Core lengthened by addition of masonry on the north 2.85 m. long, before casing, 33.65×12.1 m.; area, 407.1 sq. m.; prop. $1/2.78$.

Cased with white masonry (x-masonry), dressed to a smooth sloping surface bonded with an interior chapel of type (3 a) mastaba of type VI-x; 36.15×15.1 m.; area, 545.86 sq. m.; prop. $1/2.39$; with subsidiary north niche.

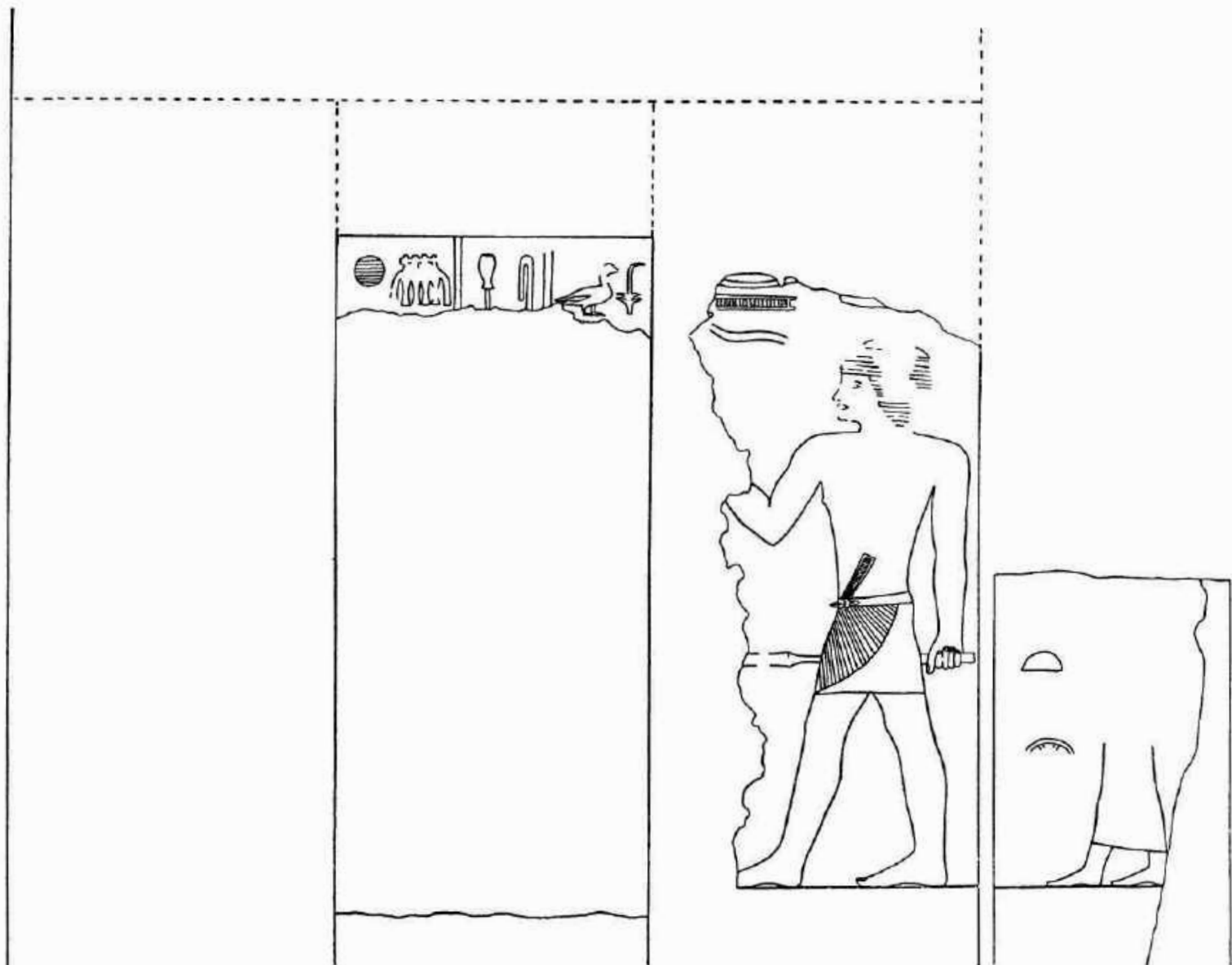
Chapel: interior chapel of type (3 2) built in hole broken in the old stepped core and bonded with the casing; with one *ka*-door in south end of east wall; 4.5×1.6 m.; area, 7.2 sq. m.; prop. $1/2.81$; of white limestone, decorated; walls partly destroyed.

Northern subsidiary *ka*-door, cut in casing; top partly destroyed; outer niche, 0.95×0.3 m.; inner niche, 0.3×0.3 m.; niche floored to a height of 0.72 m. and a large block set against it as an offering stone, 1.5×0.85 m. widening upwards to fit the slope of the casing.

Exterior c.b. chapel: nearly destroyed; apparently consisted of two separate chapels with an open court between them; the southern chapel of type (1 f) was around the doorway to the interior chapel and the northern chapel around the subsidiary north niche.

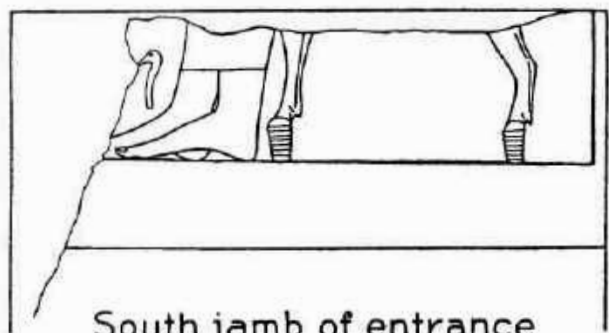
South chapel: the south wall was preserved, 3.8 m. long (E–W) and 0.5 m. thick and part of the east wall, from SE corner northwards, 12.8 and 0.5 m. thick; the E–W width of the floor inside these walls was 3.2 m.; the interior was probably divided into three or more rooms which were entered from the N from the open court.

North chapel: built around the north subsidiary niche; the north wall was preserved, 4.8 m. (E–W) and 0.5 m. thick; the east wall, partly destroyed, ran from the NE corner of the c.b. chapel to the NW corner of G 2150 (12.0 m. long and 0.5 m. thick); inside was a N–S dividing wall built later, $1.2 +$ m. long (N–S) and 0.3 m. thick; the two rooms thus indicated were 2.2 m. wide (western room) and 1.8 m. wide (eastern room); chapel

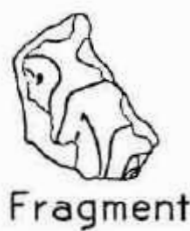


False door

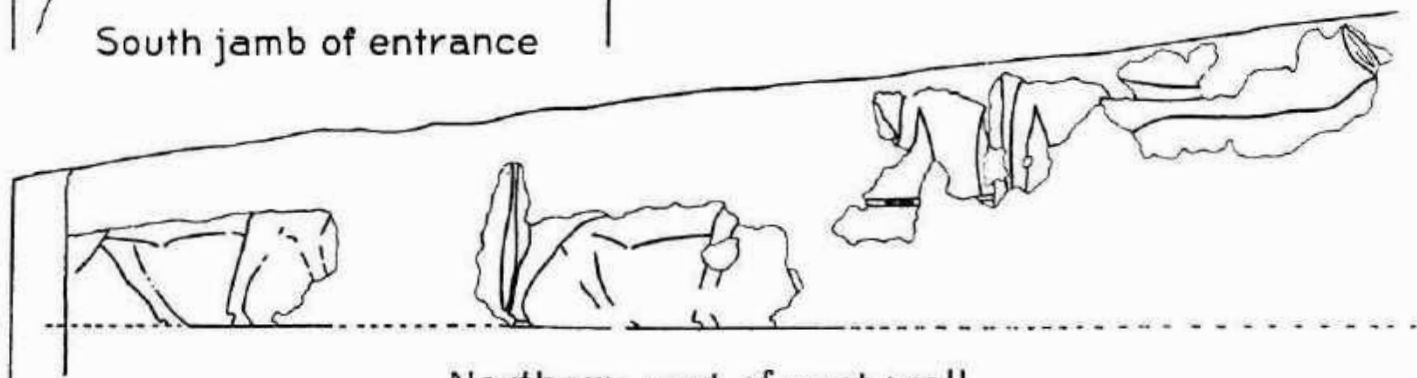
Thickness of N
side of outer niche



South jamb of entrance



Fragment



Northern part of east wall

0 50cm.

Fig. 248. G 2130

entered from east by doorway, 6.0 m. from NE corner of chapel; there was certainly a doorway in the destroyed south wall to give access to the open court and to the south chapel.

The open court contained an intrusive shaft, and the N chapel four other intrusive shafts.

Decoration of offering-room of chapel (see Fig. 248; Pl. 36 c, d):

West wall: *ka*-door at south end of wall:

Architrave, tablet, and crossbar destroyed.

Back of inner niche: beginnings of three vertical lines of inscription separated by vertical lines in relief, (1) *ss nswt* [*n ht-f?*], (2) *smr* [*wty?*], (3) *Hnt*-[*ki?*]; middle of niche broken by a hole made by thieves searching for serdab: probably decorated with seated figure of man facing to right (cf. niche of Hordedef (G 7220)).

Sides of inner niche, not decorated.

Back of outer niche: destroyed on south; on north, man standing with staff and wand, facing in to left: label

(1) [*ss nswt n ht-f*] *mr(y)-f*, (2) [*Hnt*]-*ki* (?): probably similar figure on south facing in to right.

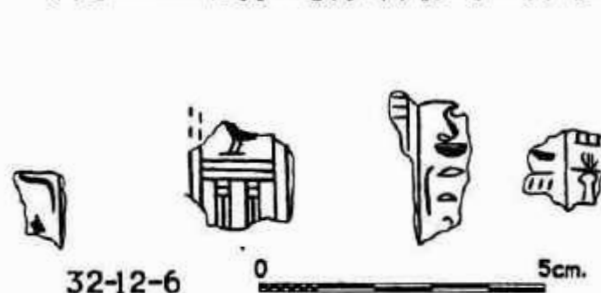


Fig. 249 a. G 2130

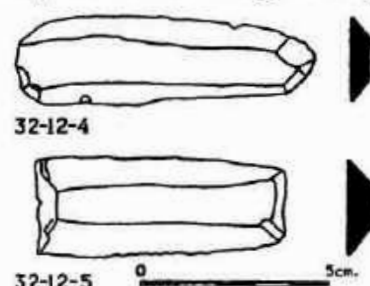


Fig. 249 b. G 2130

Outer niche sides (thickness): destroyed on south; on north below lower part of female figure facing in to left; of the label in front only the letter *t* and the city sign are preserved: obviously a vertical row of estates bearing offerings (probably three registers).

East wall: bottom of one register of men bringing animals to right presentation scene with chief figure on right facing out to left.

Other wall: either not decorated or with decorations destroyed.

North doorjamb: no trace of reliefs preserved.

South doorjamb: remains above the base line, legs of chair, man's feet, and a head of a goose; indicates man seated facing out to left at table of bread with ideographic list under table.

Shaft G 2130 A: sole shaft in position of shaft in one-shaft mastaba, in medial axis, north of middle; 2.6 × 2.55 m. at top and 2.4 × 2.35 m. at bottom; —7.0 m. in rock; lined with drab masonry, 2.95 m., seven courses; portcullis groove in masonry and in rock at south ends of east and west walls: groove on east, 0.47 × 0.22 m. at top and 0.4 × 0.25 m. at bottom; western groove, 0.5 × 0.25 m. at top and 0.4 × 0.3 m. at bottom.

Chamber: type 1 al, lined and paved; on south; lined chamber, 3.1 × 3.1 m. and 2.85 m. high; area, 9.61 sq. m.; capacity, 26.42 cu. m.; rock chamber, 4.25 × 4.25 m. and 2.9 m. high; area, 18.06 sq. m.; capacity, 52.37 cu. m.

Passage: 2.6 × 1.1 m. and 1.25 m. high; length through lining 3.2 m.; step from floor of passage to pavement, 0.35 m. and to rock, 0.6 m.

Blocking: interior blocking of white masonry set in plaster, preserved to height of 0.5 m.; portcullis stone broken up and frags. found in debris of shaft: type I b (1).

Coffin: white limestone coffin with flat lid (type d): broken: frags. found in chamber; outside, 2.03 × 0.8 m. (height not preserved); inside, 1.84 × 0.5 m. (Pl. 36 f.)

No canopic pit.

Lining and pavement: both partly removed.

Objects: found in debris of shaft of G 2130 A:

32-12-4: flint; razor with rounded ends; length, 7.9 cm.; width, 2.4 cm.; thickness 0.5 cm. Photo. B 8303-4 (2/6), Fig. 249 b.

32-12-5: flint; rectangular razor; length 6.5 cm.; width, 2.7 cm.; thickness, 0.9 cm. Photo. A 7063-4 (1/4), Fig. 249 b.

32-12-6: fine mud: frags. of jar stopper with remains of four impressions of a cylinder seal containing a Horus frame; the name ends with . . . *w* and I restore it as *Hr Mddw* (Cheops). Photo. B 8311-2 (on the right), Fig. 249 a.

G 2210: northern core in eastern line of the western group: with shaft with portcullis groove as the other four cores of the western group.

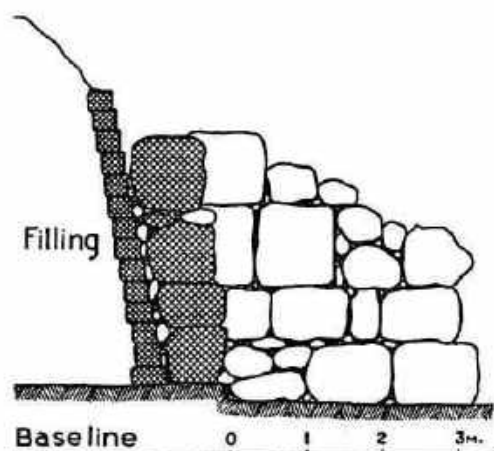
See Map 5, Figs. 72 (window), 250 (section of chapel), 251 (relief frags.), 252 (shaft), 253 (pot marks).

See Pl. 37 a-d.

Excavated: Jan.-April, 1912 (Fisher); April 27-May 2, 1932; shaft A, May 2-July 23, 1932; examination of construction, April 25 to June 3, 1935.

Name: no name recovered.

Mastaba: core type II a with retaining walls of stepped drab masonry; 26.35×11.75 m.; area, 309.61 sq. m.; prop $1/2:24$; h. 5.15 m.; average height of stepped courses, 28.3 cm.; average width of steps, 5.2 cm.



Sec. W-E Look. North
Fig. 250. G 2210

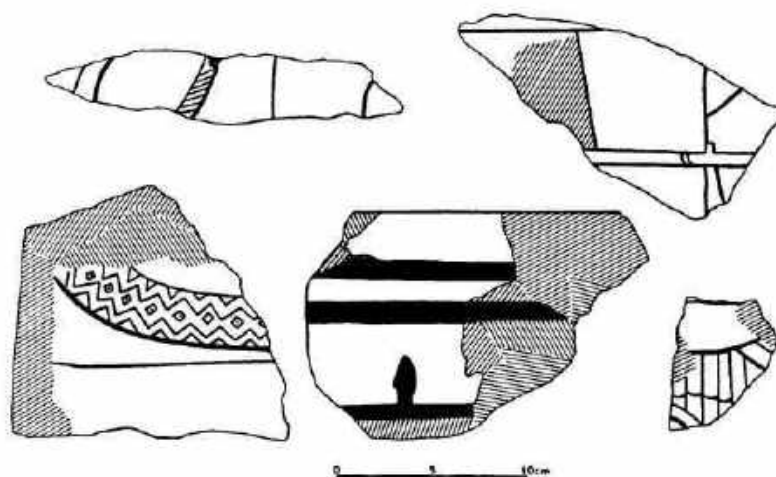


Fig. 251. G 2210

Enlarged by addition of massive corework of type IV-iii on east and north; 34.5×17.4 m.; area, 600.3 sq. m.; prop. $1/1:97$.

Chapel: either unfinished or destroyed; chapel recess in enlarged corework, 6.0×4.0 m. (Fig. 250); intended for interior chapel, probably of type (3 a) but possibly of type (4 a) probably intended to case enlarged core with white limestone and the chapel of same material bonded in construction; five small frags. in relief, of white limestone found in debris around the chapel recess (see 32-9-3 to 6), but of doubtful origin (Fig. 251).

Shaft G 2210 A: one shaft in old core north of middle, in position of shaft in one-shaft mastaba; 1.95×2.15 m.; —21.65 m. in rock; lined above with masonry, drab masonry, 5.15 m.; sixteen courses; portcullis grooves in masonry and 9.6 m. in rock to just below upper chamber; groove on east, 0.43×0.35 m.; groove on west, 0.46×0.38 m.; two chambers.

Chamber (1): at 7.85 m. in rock; type 3 ar; on south; unfinished; 4.4×4.9 m. and 1.85 m. high; area, 21.56 sq. m.; capacity, 39.88 cu. m.

Passage: 1.75×0.8 m. and 1.15 m. high; portcullis grooves end 0.8 m. below floor of passage; open and empty; perhaps unused.

Chamber (2): at bottom of shaft; type 1 bl, lined but not paved; lined chamber, 4.25×3.8 m. and 3.3 m. high; area, 16.5 sq. m.; capacity, 53.29 cu. m.; chamber in rock, 4.95×4.5 m. and 3.3 m. high; area, 22.27 sq. m.; capacity, 73.49 cu. m.

Passage: 2.0×1.15 m. and 1.1 m. high; length through lining to inside lining, 2.4 m.; step down from floor of passage to rock floor of chamber, 0.35 m.

Blocking: type II b (1); remains of masonry in passage penetrated by thieves.

Lining and pavement: the walls were in course of lining with white masonry but lining was left unfinished: lining of 11 courses designed, but 9 were built on south, 10 on west, 7 courses and one block of eighth course

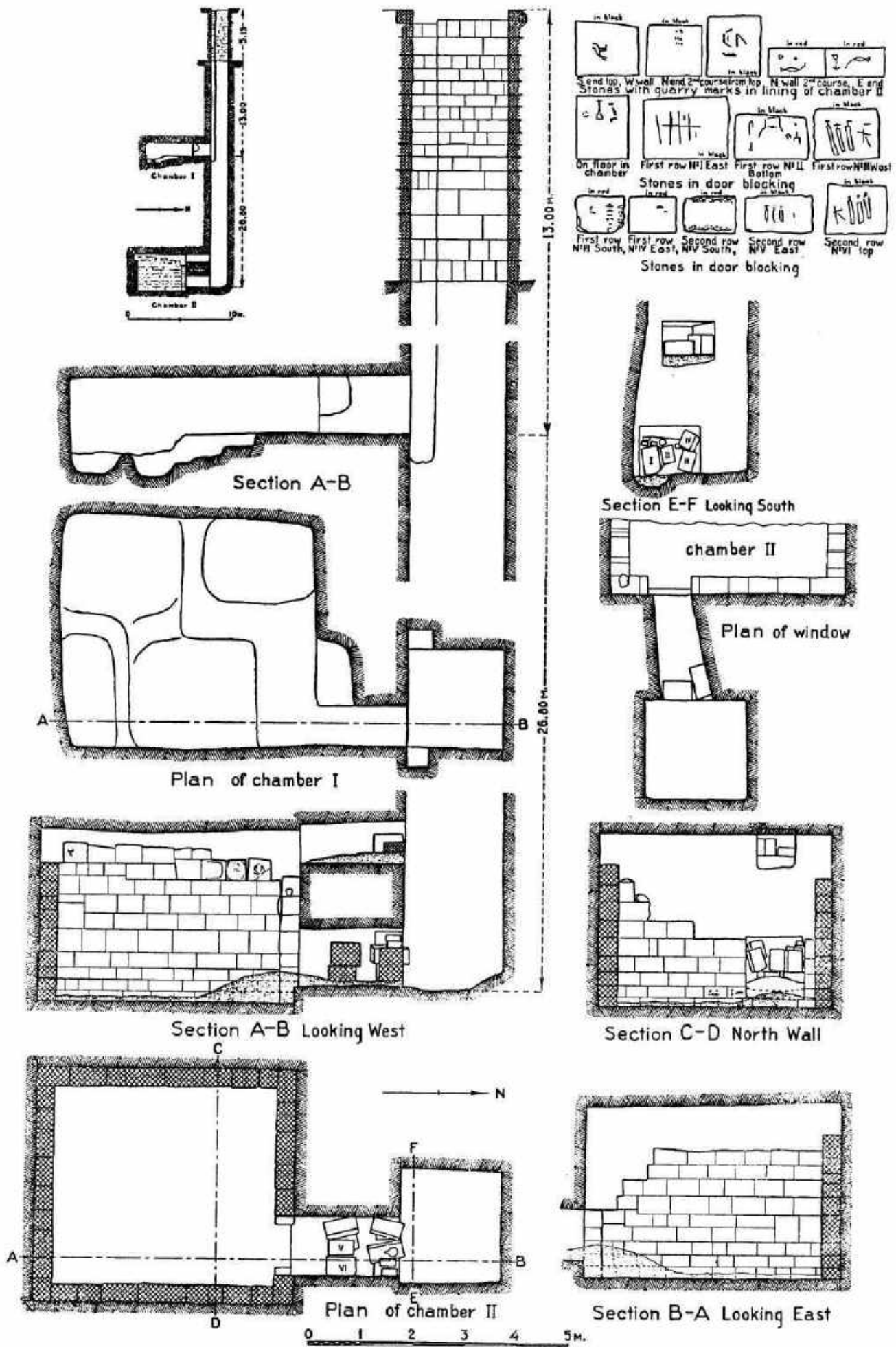


Fig. 252. G 2210 A

in north wall, and 9 courses (5 complete and 4 nearly complete) in east wall; the pavement was never constructed.

'Window': construction window between south wall of shaft and north wall of rock cut chamber; near roof; 2.0 × 0.9–0.7 m. and 0.85–0.65 m. high; blocked with masonry; blocking of both door and window had been penetrated and the burial plundered but the chamber had not been stripped of its lining.

Coffin: frags. of decayed wood probably from coffin were scattered over the floor; mixed with scattered human bones.

Objects: found on floor of chamber:

32-10-1: RP: bowl with recurved rim, round bottom, type C-XXXII a; h. 6.0 cm.; d. 22 cm.

32-10-2: RP: bowl as No. 1; type C-XXXII a; h. 7.5 cm.; d. c. 25 cm.; smeared with plaster in and outside.

32-10-3: DbW or WSR: frags. jar of type A-II b; h. 35 cm.; d. c. 23 cm.; potter's marks on shoulder; plaster inside.

See Fig. 253.

32-10-4: RBrW: jar of type A-II b; 20 frags. all with plaster inside; h. 43 cm.; d. c. 21 cm.

32-10-5: coarse RW: offering-jar of type A-IV b, with plaster inside; h. 28 cm.; d. 13.6 cm.

32-10-6: RW, coarse: type A-IV b; plaster inside; h. 31.6 cm.;

d. 15 cm.

32-10-7: RW, coarse: type IV-b jar; without neck; h. 18.4 cm.;

d. 12.2 cm.

32-10-8: RW: 3 frags. of base of large basin; type D-XXXV (?);

d. flat base, c. 30 cm.; d. rim, over 45 cm.

32-10-9: mud ware: 3 frags. of bread pot (flower pot); type F-XXV; h. 15 + cm.; d. 20 cm.

32-10-10; 11: DbW: 23 frags. of large jars of type A-II b; d. rim, c. 12 cm.; one with potter's mark. See Fig. 253.

32-10-12: RW, coarse: 5 frags. from neck of at least two jars of type A-IV b; d. rim, c. 12 cm.

32-10-13: BrW: 31 frags. from one or more large jars, type A-II b; h. 40 cm.; d. 22 cm.

32-10-14: BrW: or RBrW or RW: base frags. of four jars of type A-II b or similar: and frags. of at least 8 others; mostly with white plaster inside; one with potter's mark.

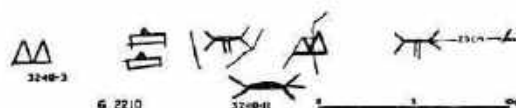


Fig. 253. G 2210

G 2135: in eastern group of six cores; southern core of western line.

Excavated: by Prof. Junker, *Giza I*, p. 227 (numbered VII NN).

Name: not preserved.

Mastaba: core type II a, uncased; 23.45 × 10.3 m.; (Junker's plan); area, 241.53 sq. m.; prop. 1/2.27; h. 4.0 m.

Chapel: exterior c.b. chapel of type (1 a), built around emplacement for slab-stela; partly obscured by later constructions; probably contained five rooms, (a) and (b) on west, and (c), (d), (e) on east:

(a) N-S offering-room around slab-stela (emplacement): 5.4 × 2.5 m.; area, 13.5 sq. m.; prop. 1/2.16.

(b) magazine south of (a): 2.15 × 2.5 m.; area, 5.38 sq. m.; entered from (a) by doorway in east end of north wall

(c) vestibule east of (a), on north; destroyed.

(d) room connecting c with e; northern part destroyed; width 2.0 m.

(e) magazine south of (d): 2.15 × 2.0 m.; area, 4.3 sq. m.; entered from (d) in west end of north wall.

Total area, (a)–(e), estimated at 33.0 sq. m.; relation 1/7.31.

Slab-stela: see Junker, *Giza I*, p. 230 (Fig. 53 b, Pl. 37 b); frag. of about a quarter of a slab-stela (upper right-hand quarter); showing right half of the table to top; above the table remains of short list of offerings; to right of table, an old compartment list (linen list); no name or titles preserved.

Shaft G 2135 A: sole shaft, in position of shaft in one-shaft mastaba, north of middle; 2.1 × 2.1 m. at top; 1.8 × 1.8 m. at bottom; –7.0 m. in rock; lined with drab masonry, 5.7 m.; fifteen courses.

Chamber: type 1 cm.; lined chamber, 3.01 × 3.06 m. and 3.05 m. high; area, 9.24 sq. m.; capacity, 28.18 cu. m.; rock chamber, 3.8 × 3.85 m. and 3.05 m. high; area, 14.63 sq. m.; capacity, 44.62 cu. m.

Passage: including lining, 1.55 × 1.3–1.45 m. and 1.1 m. high; step down from floor of passage to floor of chamber, 1.2 m.

Coffin: white limestone coffin with flat lid (type d); outside, 2.09 × 0.82 m. and 0.62 m. high; thickness of lid,

7.5–8 cm.; rebate on outside of upper edge of box with corresponding ledge on under side of lid; thickness of walls of coffin 9.5 cm.

Canopic pit: in SE corner; 0.52 × 0.5 m. and 0.43 m. deep.

Lining and pavement: the lining was begun and built to a mean height of four courses; the pavement was never begun (cf. G 2210).

Objects: found in debris; in addition to (1) the limestone coffin were found (2) lower part of seated statuette, (3) frags. of alab. vessels, and (4) frags. of Arabic lamp.

G 2140: eastern group, second core in western row, north of G 2135.

See Map 5 and Figs. 254 (chapel), 255 (shaft), 256 (pottery jar).

See Pl. 38 a–b.

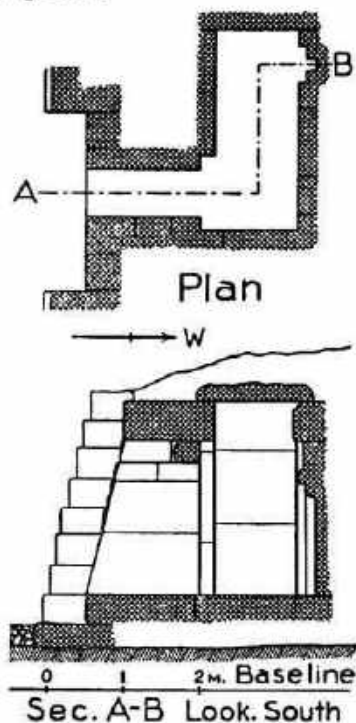


Fig. 254. G 2140

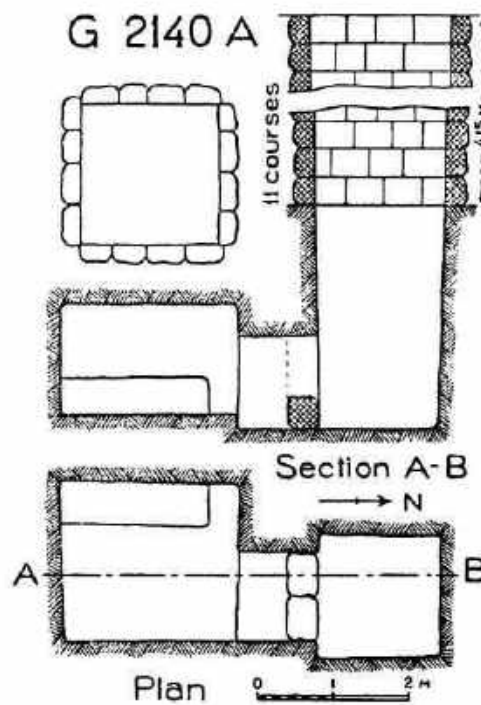


Fig. 255

Name: not preserved.

Mastaba: old core of type II a of normal size; uncased; altered by introduction of interior chapel of type (3 a) into uncased mastaba of type VI b (1); 23.2 × 10.4 m.; area, 241.28 sq. m.; prop. 1/2.23; retaining wall of z-masonry of drab limestone; height, 4.2 m.; average height of stepped courses, 39.7 cm.; average width of steps, 12.0 cm.

Chapel: interior chapel of type (3 a) of white limestone; built in hole broken in old core; 2.65 × 1.1 m. and 2.55 m. high; area, 2.91 sq. m.; prop. 1/2.4; relation 1/82.91; single *ka*-door near south end of west wall; uninscribed except for architrave which bears the beginning of an unfinished inscription composed of vertical groups of signs, (1) *dl nswt htp*, (2) *Inpw hnty sh ntr*, (3) *krst*, (4) ... *lmnt-t*: in relief: entered from E by doorway in north end of east wall.

Shaft G 2140 A: sole shaft in position of shaft in one-shaft mastaba, north of middle; 1.85 × 1.85 m. at top and 1.6 × 1.6 m. at bottom; —2.9 m. in rock; lined with drab masonry, 4.15 m.; eleven courses.

Chamber: low degenerate form of type 3 b; on south; 2.3 × 2.1 m. and 1.45 m. high; area, 4.83 sq. m.; capacity, 7.0 cu. m.

Passage: 1.05 × 1.2 m. and 1.2 m. high; step up from floor of passage to floor of chamber, 0.2 m.

Blocking: type II b (1); of which two blocks remained in place.

Stone bench: an unfinished attached stone coffin; along west wall beginning against south wall; 1.95 × 0.6 m. and 0.5 m. high.

Chamber found littered with rubbish in which were broken human bones and a large two-handled jar.

32-12-18: special ware: two-handled oil jar, type B-LIV; complete except for chip from rim; h. 39 cm.; d. rim, 9.0 cm.; d. neck, 6.0 cm.; d. body, 20 cm.; w. with handles, 27.6 cm.; d. base, 10.0 cm. See Fig. 256.

Later Constructions and Intrusions: the street east of G 2140 was occupied by small later mastabas, G 2148 south of the chapel, and G 2145-7 north of the chapel; G 2145 was against the south end of the exterior c.b. chapel of G 2150; the avenue between G 2140 and G 2150 was also occupied by a complex of small mastabas G 2141-5.

G 2150: eastern group, northern core in western line, north of G 2140.

See Map 5 and Figs. 86 (section casing), 123, 265 (chapel), 206 (N. *ka*-door), 266 (shaft A), 267 (objects), 268 (shaft B), 257-264 (chapel reliefs).

See Pls. 38 c-e, 39 b, 40 a, b, 43 a-c.

Excavated: Jan. 23, Feb. 6, March 5-22, 1912; re-examined in 1932-3.

Name: Kanofer, *imy-rj wptwt, smr, smstw is, hrp rh*.

Wife: *hm ntr Ht-hr, hm ntr N-t, Špsst-kw*.

Mastaba: old core of type II a; of normal size; 23.2×10.4 m.; area, 241.28 sq. m.; prop. $1/2.23$; height, c. 4 m.; retaining wall of z-masonry of stepped courses, of drab limestone; average height of stepped courses, 41.0 cm.; average width of steps, 10.5 cm.

Cased with grey nummulitic limestone in small stepped courses (z-masonry), with interior chapel of white limestone built in hole broken in old core; 25.2×12.0 m.; area, 302.4 sq. m.; prop. $1/2.0$; average height of courses, 46.0 cm.; average width of steps, 12.4 cm.

Chapel: interior two-niched chapel of type (4 a) of white limestone; built in hole broken in core; 3.15×1.05 m.; area, 3.3 sq. m.; prop. $1/3.0$; relation $1/91.63$; h. 2.60: entered from east by doorway in north end of east wall, opening in embrasure in east face of casing.

Exterior c.b. chapel of type (1g), consisting of three rooms, (b), (c), (d) from south to north.

(b) magazine on south, entered from north from room (c) by doorway in east end of north wall; 1.6×2.25 m.; area, 3.6 sq. m.; thickness of south wall, 1.75, of east wall, 1.6, and of north wall, 1.1 m.

(c) N-S hall around entrance to interior chapel; 4.0×2.35 m.; area, 9.4 sq. m.; entered from north from room (d) by doorway in west end of north wall; doorway to room (a), near south end of west side; doorway to (b), in east end of south wall; thickness of east wall, 1.6 m.; of north wall, 1.15 m.

(d) long N-S corridor extending to north end of mastaba, 15.0×2.8 m.; area, 42.0 sq. m.; entered by doorway in north end of east wall, the walls forming room (d) were built later against the north face of the north wall of (c); thickness of east wall, 1.12 m. and of north wall, 0.85 m.

Total area, rooms (b), (c), 13.0 sq. m.

Total area, rooms (a), (b), (c), 16.3 sq. m.

Total area, rooms (a)-(d), 58.3 sq. m.

Northern subsidiary niche: towards north end of east face, a monolithic framed stela inset in the stepped face of the wall of z-masonry; width N-S, 1.15 m.; outer niche, 0.76×0.12 m.; inner niche, 0.25×0.14 m.

Decoration of Chapel, room (a):

West wall (Fig. 257; Pl. 40 a): South *ka*-door:

Architrave: inscription in seven vertical lines; double offering formula, *di nswt htp di Tnpw htp* etc.

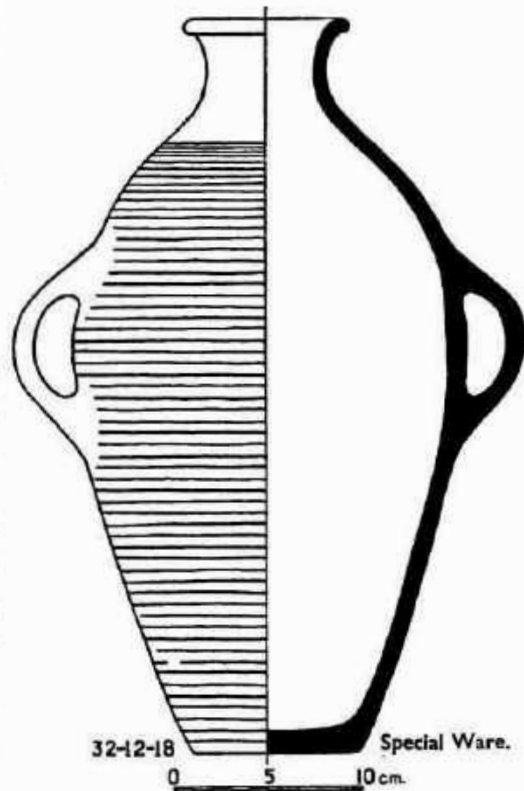
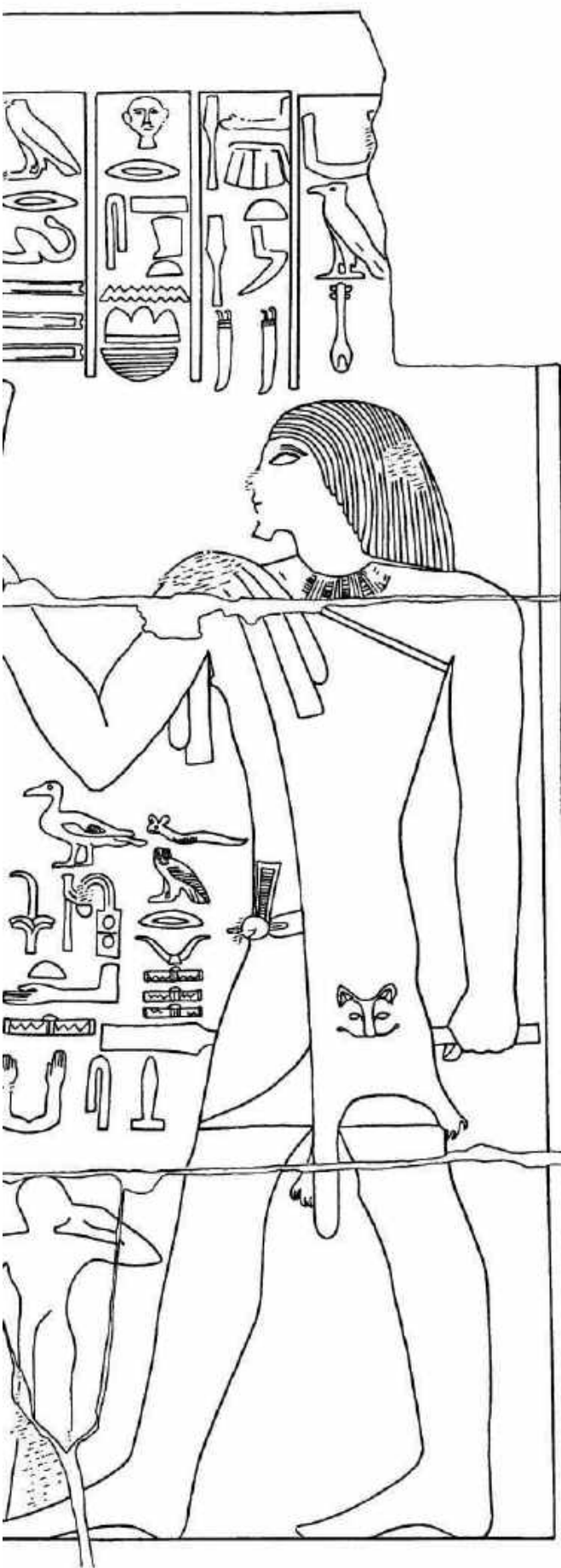


Fig. 256. G 2140 A ch.



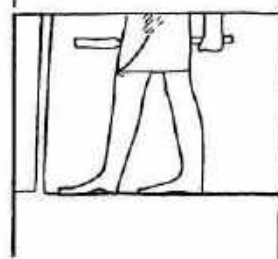
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Fig. 257. G.



50cm.

10, West wall



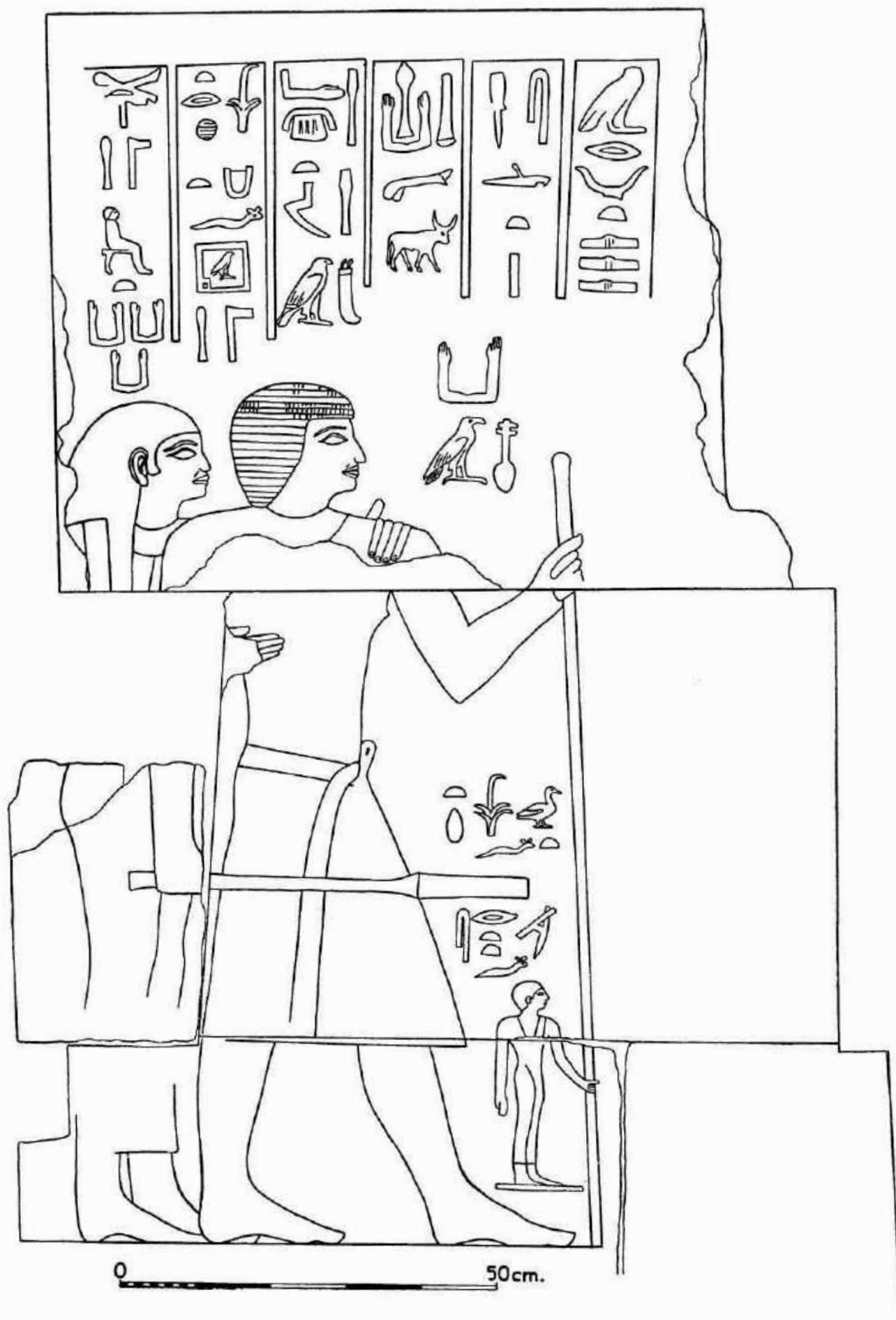


Fig. 258. G 2150; north wall

Tablet: Kanofer seated at table of bread, facing to right in traditional attitude; ideographic list under table:
 above table titles which continue down right side of tablet: *imy-rs wprwt*, *smr wcty*, *Ki-nfr*.
 Crossbar: *smr wcty*, *hrp ch Ki-nfr*.
 Drum: *smr Ki-nfr*.



Fig. 259. G 2150; south wall

Backs of outer niche; on each a man standing facing in: rest undecorated.

West wall, north *ka*-door: upper part broken out by the thieves who opened the serdab behind; only decoration preserved on back of outer niche, on south; man standing facing in to right, with staff and wand; titles and name, *imy-rs wprwt Ki-nfr*. on N panel, part of similar figure facing in to left.

West wall, between two *ka*-doors: small offering scene; on right, Kanofer standing with staff and wand, facing in to left with son (*Ki-sd*, identified with owner of G 5240) between him and staff; in front of him two

registers of two men each facing to right (1) censuring, (2) scribe in respectful attitude, (3) with two strips of linen, and (4) with jar and live bird.

West wall, south of south *ka*-door: two registers preserved, supplementary to the niche or to the scene between the two *ka*-doors:

Reg. 1, two men standing facing to right, (a) with haunch and (b) with live birds.

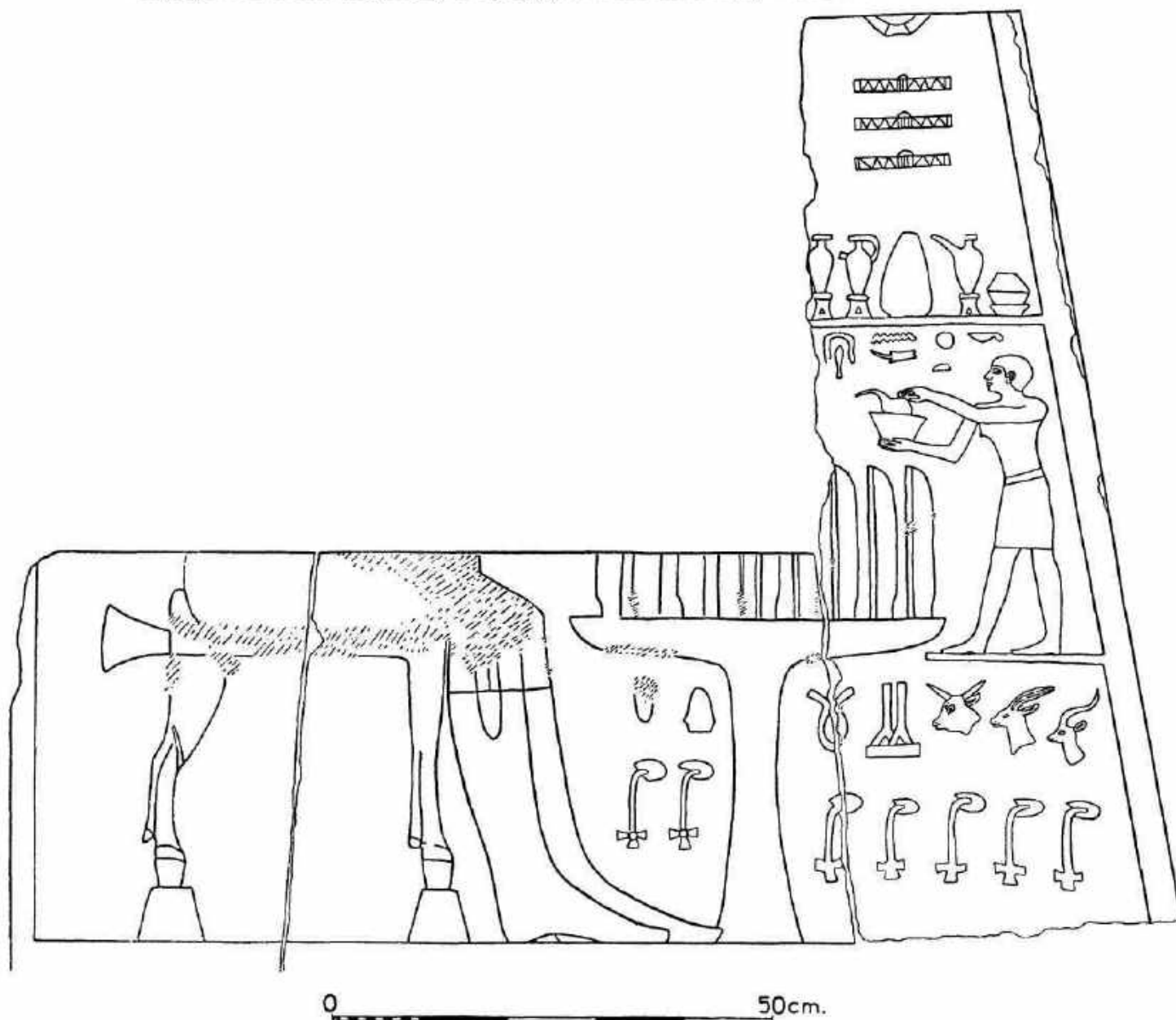


Fig. 261. G 2150; north jamb of entrance

Reg. 2, two women standing facing to right, labelled *ḏrtj*, both carrying box on head and in the other hand one holds a jar on cord and the other a bird.

West wall: north of north *ka*-door: one figure preserved, subsidiary to scene on north wall; man carrying large case (?).

South wall (Fig. 259; Pl. 40 b): table scene or offering scene; on right Kanofer seated in armchair at table of mixed food offerings, facing to left; bare head, with fly whisk in left hand; over table at least three registers of picture list of offerings.

North wall (Fig. 258): family group: Kanofer and wife standing facing out to right: between Kanofer and staff, a daughter standing facing to right (*syt-f ḥkrt nswt Mrt-ḥt-š*); wife's name, Shepsiset-kauw.

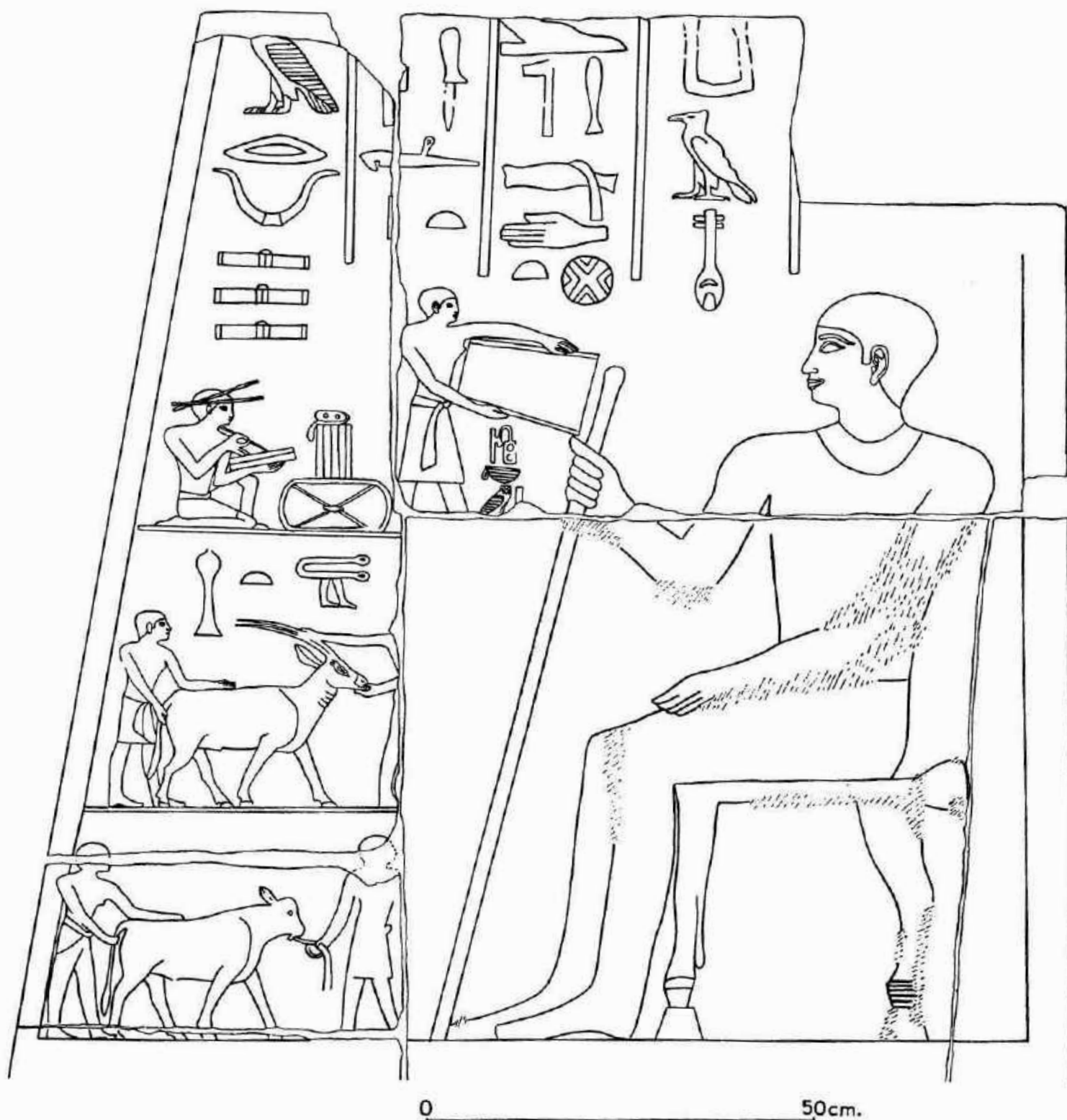


Fig. 262. G 2150; south jamb of entrance

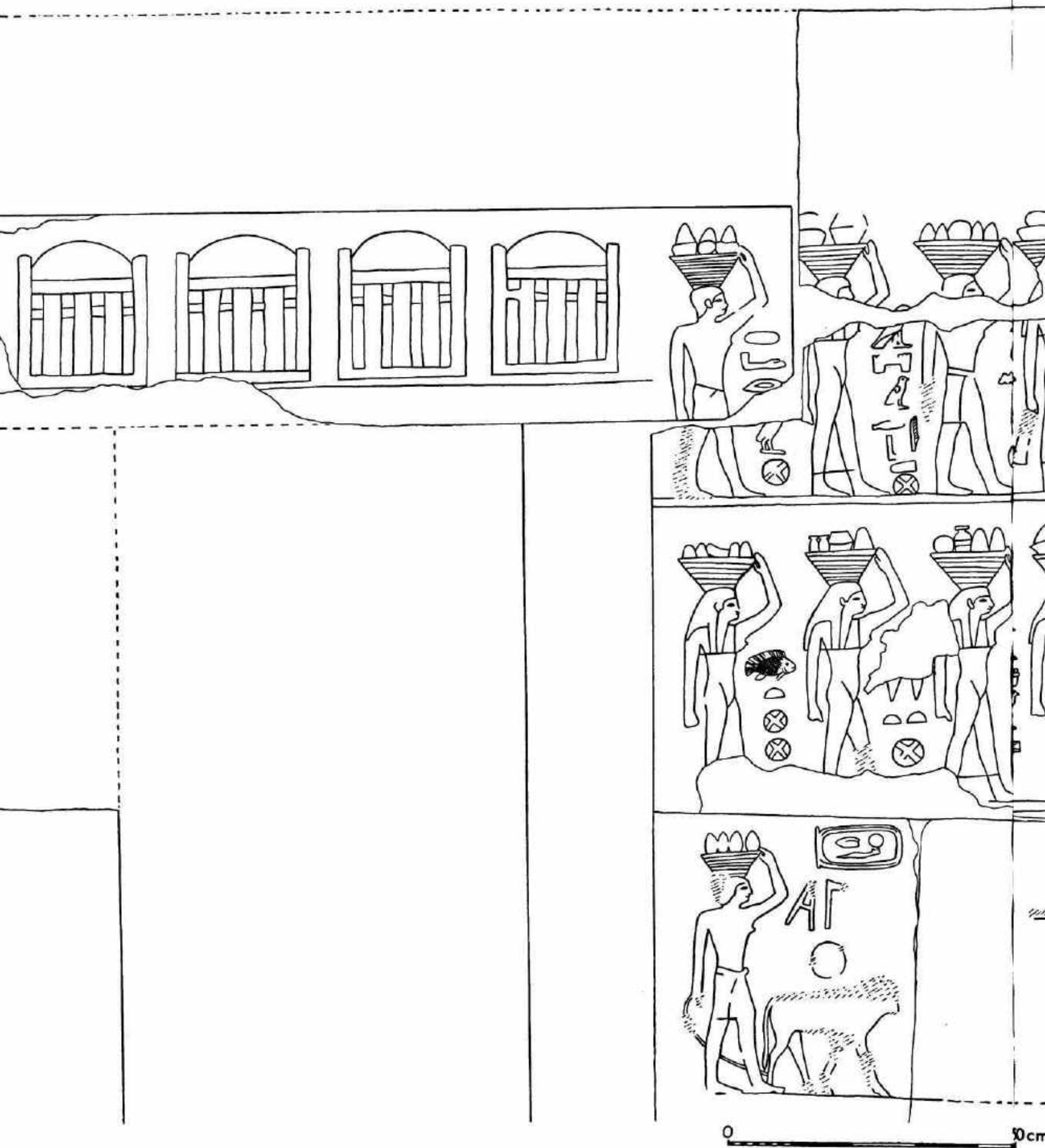
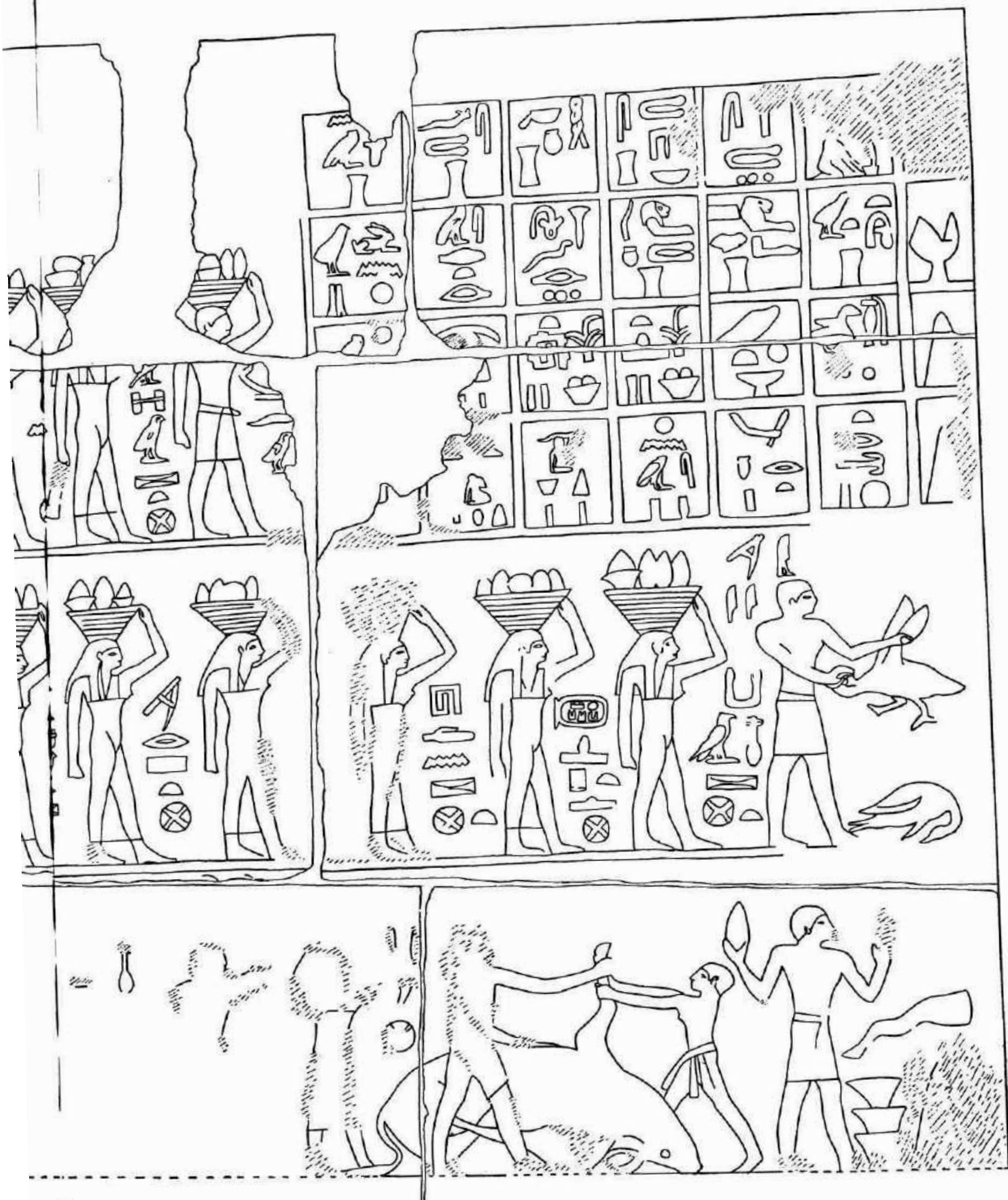
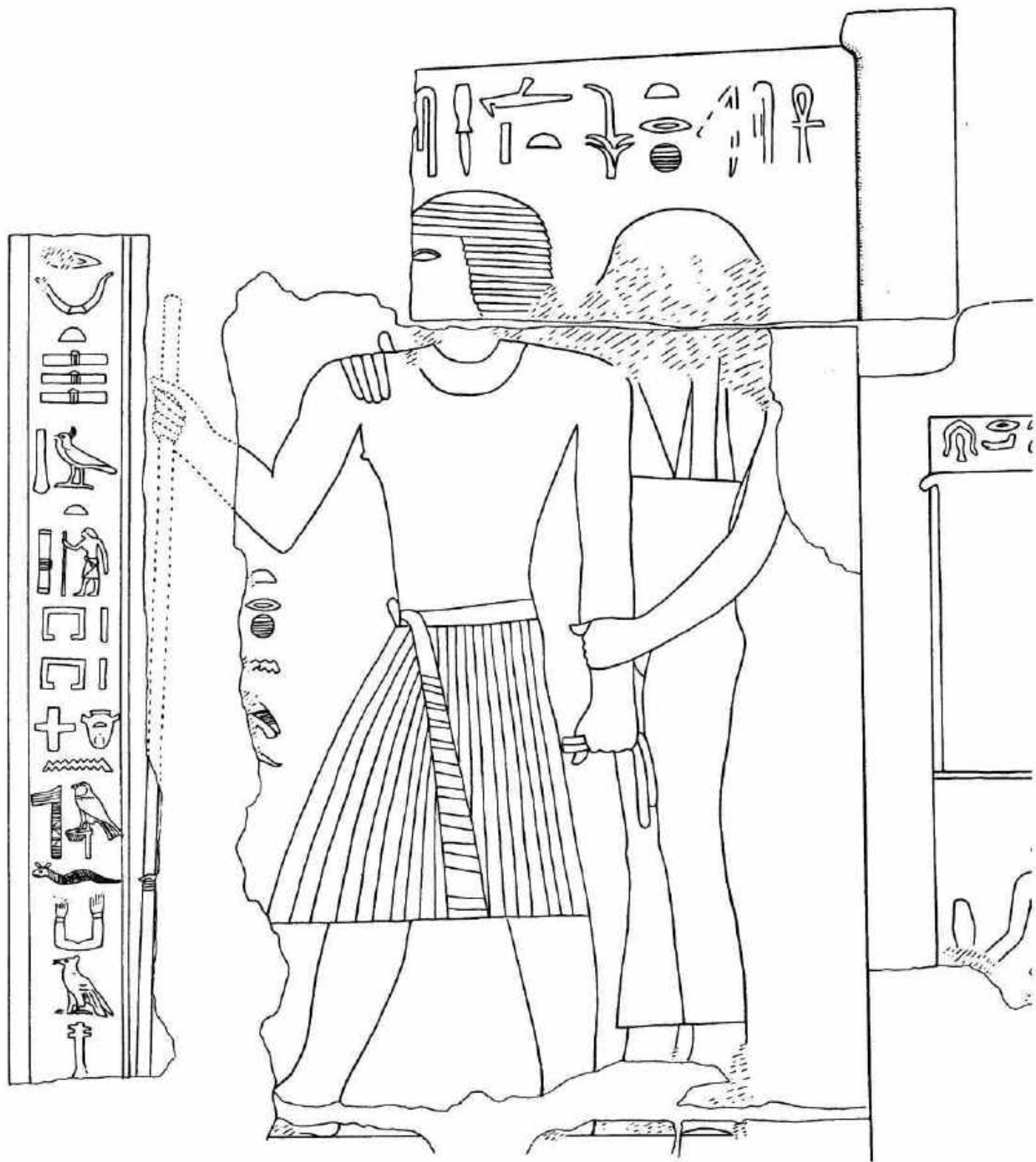


Fig. 260. G 2150, E wall

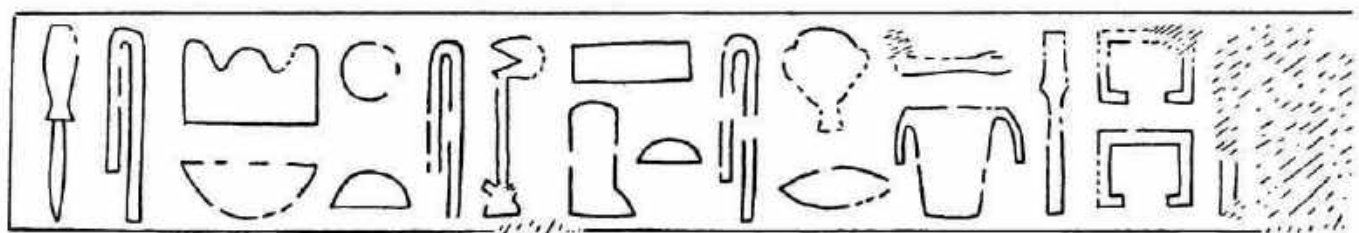


Dcm.

50, E wall

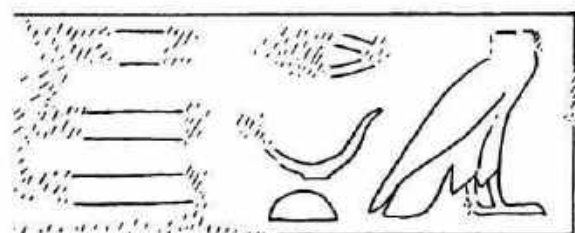
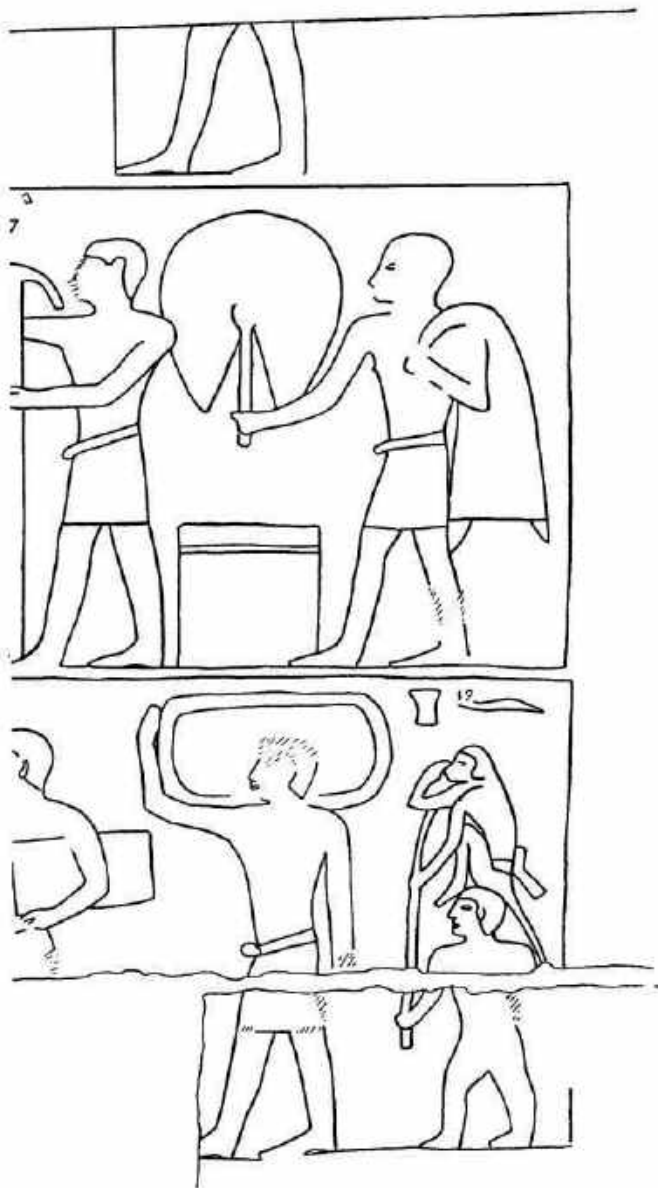


Facade north of chapel entrance



Architrave of northern subsidiary ni

0 50 cm.



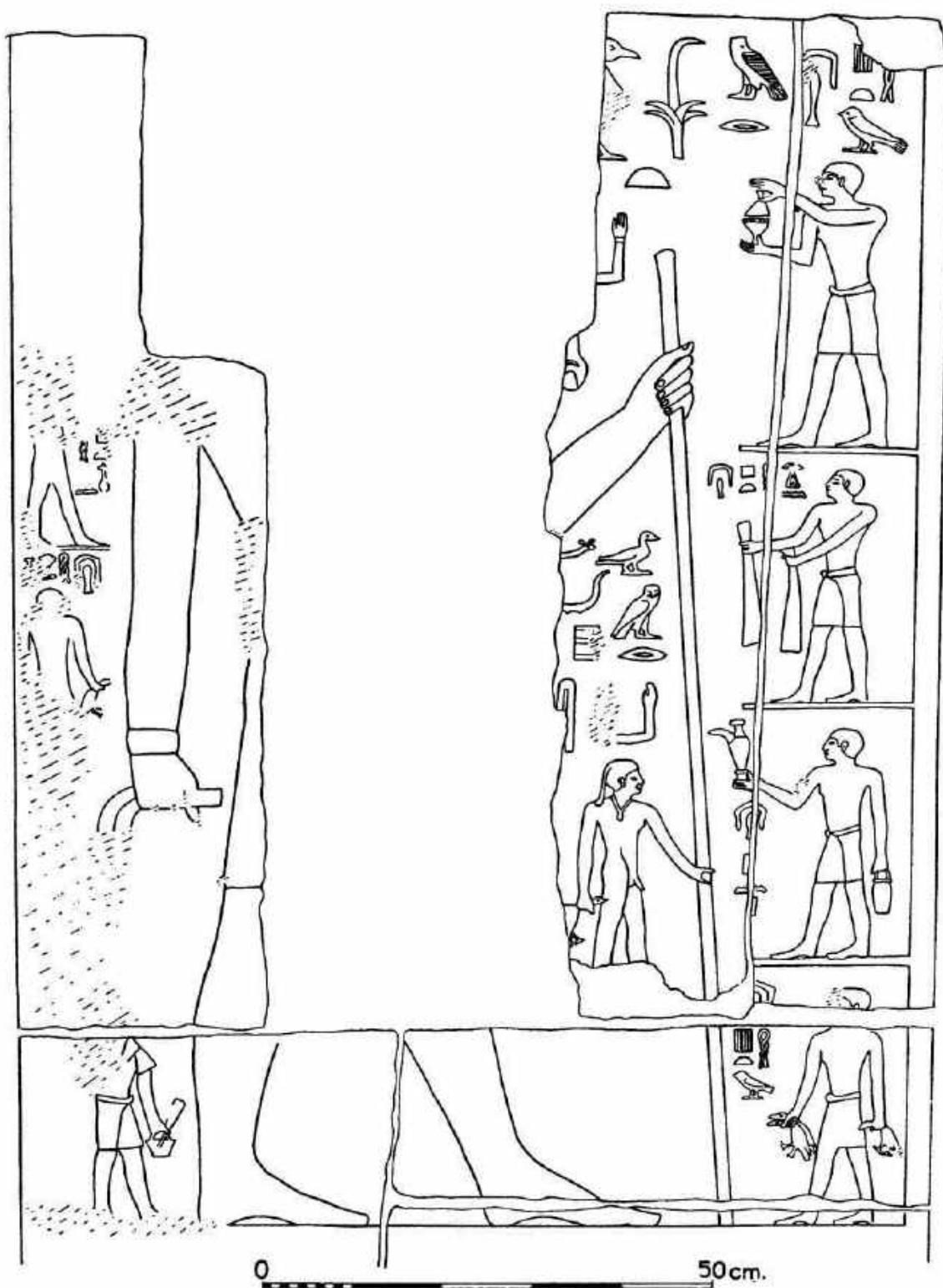


Fig. 264. G 2150 ; Façade, south of entrance

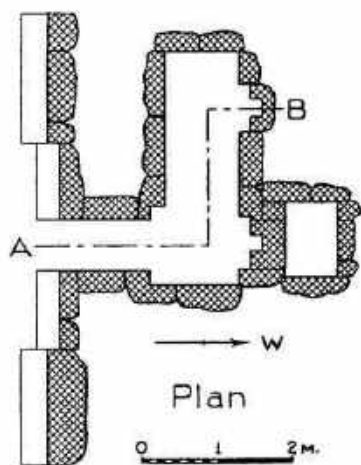
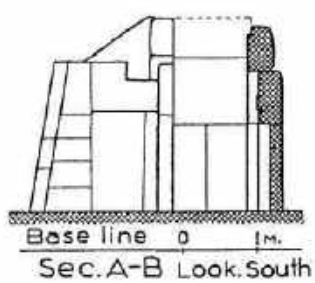


Fig. 265. G 2150

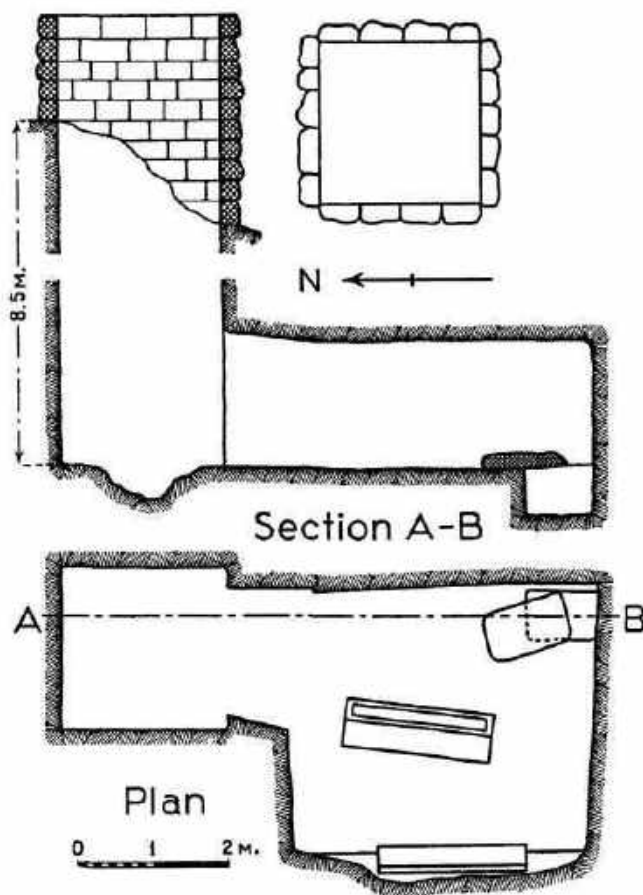


Fig. 266. G 2150 A

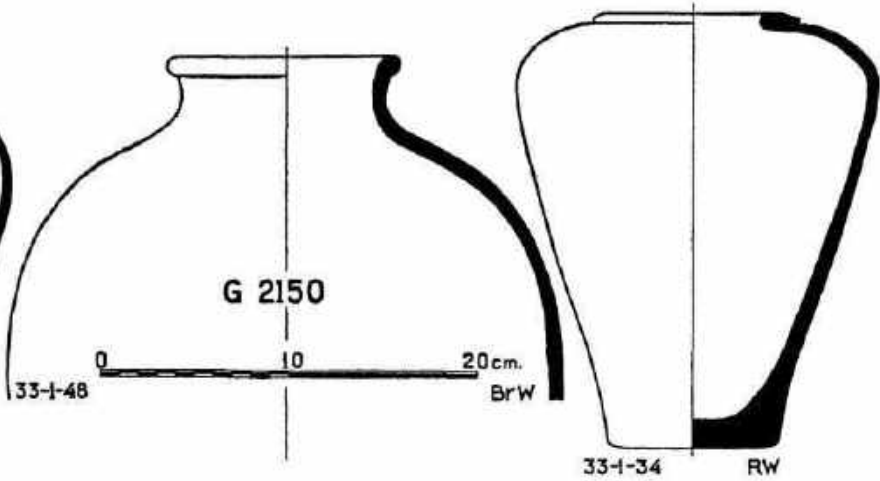
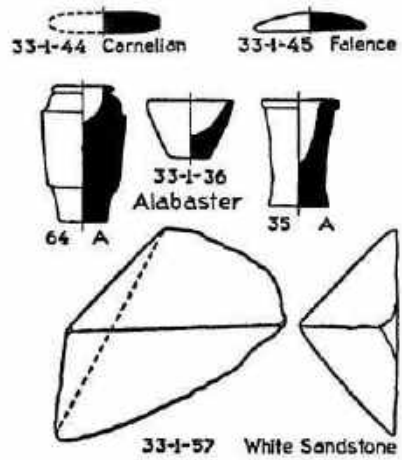
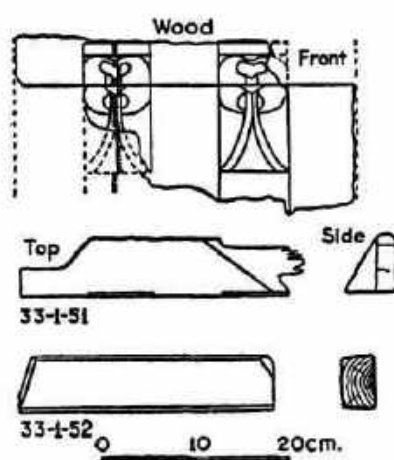
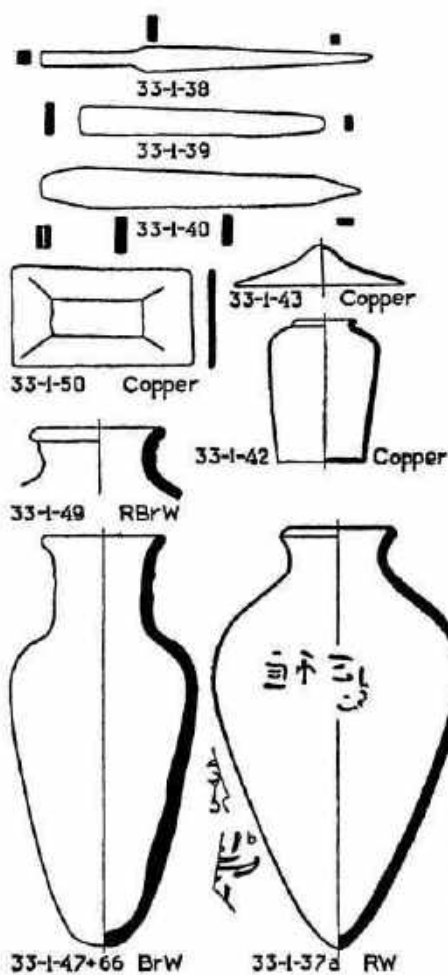


Fig. 267

East wall (Fig. 260): presentation scene subsidiary to scene on south wall; no chief figure; on left four registers of estates bearing offerings to right; to right of upper register, a compartment list of offerings: under this at head of estate procession an offering bearer presents live birds; beneath this in lowest register a slaughter scene and on right a man holding up wine jars with pile of offerings in front of him; one estate contains the name of Chephren, and another the name of Mycerinus (*Mn-kw-r hrtp*); three are based on the name *Hr-Mddw*; over entrance doorway row of four *krst* coffins.

North doorjamb (Fig. 261): Kanofer seated at table of bread, facing out; to right of table three registers:

Reg. 1, picture list of offerings; (2) man holding out ewer and basin, facing to left; (3) extending under table, ideographic list of offerings.

South doorjamb (Fig. 262): Kanofer seated facing out to left, with staff in right hand, bare head; in front of him three registers (1) two figures facing to right, (a) standing reading papyrus, and (b) scribe squatting writing; (2) two men bringing in an ox; (3) two men bringing in a calf.

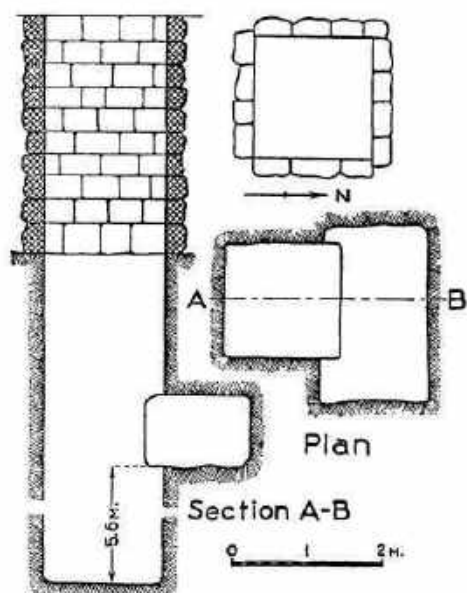


Fig. 268. G 2150 B

North façade panel (Fig. 263), in embrasure of doorway: Kanofer and his mother (?) *rht-nswt* Meresankh (possibly the wife of Nofer (G 2110)), standing facing in to left; man with staff and wand; figure of son (?) between him and staff; on right behind chief figures (on outer face of mastaba north of embrasure) three registers of men facing in to left:

Reg. 1, legs of one man in middle and rest not cut.

Reg. 2, two standing figures, (a) man holding out a skirt?; (b) man with fan and bag (box on ground).

Reg. 3, three figures standing, (a) with bag and box; (b) scribe's case (?) on shoulder, (c) dwarf carrying monkey on his head.

South façade panel, in doorway embrasure (Fig. 264): Kanofer standing with staff and handkerchief, facing in to right; son (*K-s[d]*) between him and staff; in front of him a vertical row of four figures standing facing to left: (1) censuring, *imy-r hm k Pth-wr*; (2) holds out two strips of linen, *hm-k Rdt-n-Pth*; (3) with *kbh* jar and water jar (*hm k Snb?*); (4) holds three live birds (*hm k Pth-wr*).

Behind to left of Kanofer, four figures in vertical row: (1) obliterated; (2) partly preserved, *Nfr-[hr?]-n-ptb*; (3) bird in left hand, *hm k Hr-nfr?*; (4) carries basin and stick in left hand and a little bag in right.

Architrave of northern subsidiary niche (Fig. 263): horizontal line of titles, with space left below for second line of titles and name but not carved: *imy r wpwt, [smsew is] prwy, hrp r, hry stt, hwt nb, smr*.

Serdab: behind north *ka*-door of room (a), small serdab lined with masonry; 1.0 × 0.7 m. area, 0.7 sq. m.; probably connected with *ka*-door by slot now destroyed; found filled with rubbish.

Shafts in G 2150: originally a one-shaft mastaba with chief shaft A, in medial axis north of middle; later a secondary shaft was intruded south of A west of serdab (shaft B).

Shaft G 2150 A: chief shaft; 2.1 × 2.07 m.; —8.5 m. in rock; lined with drab masonry, 1.4 m.; ten courses.

Chamber: type 4 b (1); on south; 4.0 × 3.5 m. and 1.65 m. high; area, 14.0 sq. m.; capacity, 23.1 cu. m.

Passage: 1.15 × 1.65 m. and 1.65 m. high.

Blocking: remains of masonry set in plaster, type II b (1).

Coffin: red granite coffin covered with plaster, found overturned on side; with flat lid type d; outside, 1.93 × 0.66 m. and 0.66 m. high; inside, 1.75 × 0.48 m. and 0.54 m. deep; thickness of lid, 10 cm. (Pl. 38 e).

Canopic pit: in SE corner; 0.95 × 0.6 m. and 0.65 m. deep; with slab lid displaced, 1.15 × 0.65 m. and 0.15 m. thick.

Nearly completely plundered: scattered broken bones and the following objects:

33-1-34: RP: neckless shoulder-jar, type B-LV; h. 22.6 cm.; d. shoulder, 18.6 cm.; d. base, 9.0 cm. Pl. 43 b (3/2).

See Fig. 243.

33-1-35: alab.: model cyl. jar, type S-I d; h. 5.8 cm.; d. rim, 4.3 cm.; d. base, 3.4 cm.; dummy. Pl. 43 b (2/7). See Fig. 243.

- 33-1-36: alab.: eight model basins; type S-X b; h. 2.3-3.0 cm.; d. rim, 4.0-4.6 cm.; d. base, c. 2.4 cm. Pl. 43 b (2/1-4). See Fig. 243.
- 33-1-37: FRW: two jars with tapering base, short neck and roll rim; type A-VI b; one complete example with hieratic inscription on shoulder and frags. of another; (2) h. 22.4 cm.; d. rim, 6.0 cm.; d. neck, 5.2 cm.; d. max. 13.0 cm.; the frags. of a second jar have an hieratic ink inscription on shoulder. Pl. 43 b (3/3). See Fig. 243.
- 33-1-38: copper: two models; spear-head blade with square haft; length, 8.8 cm.; w. blade, 0.7 cm.; thickness, 0.4 cm.; haft, 0.3 × 0.3 cm. Pl. 43 c (2/6, 7). See Fig. 243.
- 33-1-39: copper: model chisel; length, 6.5 cm.; w. 0.75 mm.; thickness, 2 mm. Pl. 43 c (2/3). See Fig. 243.
- 33-1-40: copper: model chisel with pointed end; length, 8.8 cm.; w. 1.0 cm.; thickness, 5 mm. Pl. 43 c (2/5). See Fig. 243.
- 33-1-41: copper: frags. of two or more implements. Pl. 43 c (2/4).
- 33-1-42: copper: model neckless shoulder-jar; h. 4.0 cm.; d. rim, 1.6 cm.; d. shoulder, 2.7 cm.; d. base, 2.3 cm. Pl. 43 c (2/1). See Fig. 243.
- 33-1-43: copper: a cover (?) or lid; h. 1.0 cm.; d. 4.5 cm. Pl. 43 c (1/1). See Fig. 243.
- 33-1-44: carnelian: disk; d. 3.0 cm.; thickness, 0.5 cm. in middle decreasing to edges. Pl. 43 c (1/4). See Fig. 243.
- 33-1-45: faience: faded green glaze; disk (truncated cone); d. 3.0 cm.; thickness, 0.5 cm. Pl. 43 c (1/2). See Fig. 243.
- 33-1-46: gold: small sheet of leaf gold and four bits; l. 4.5 cm.; w. 3.2 cm. Pl. 43 c (1/3).
- 33-1-47+66: RBrW: frags. of a jar with slender neck and slightly flaring mouth; type A-VII; h. 22 cm.; d. rim, 6.6 cm.; d. neck, 5.2 cm.; d. body, 9.6 cm. Pl. 43 b (3/1). See Fig. 243.
- 33-1-48: BrW: frags. large jar; type A-II b; h. 19 cm.; d. rim, 10.4 cm.; d. body, c. 29.5 cm. See Fig. 243.
- 33-1-49: RBrW: frags. jar of type A-II b; d. rim, c. 7 cm. See Fig. 243.
- 33-1-50: copper: model; dished rectangular razor; l. 4.7 cm.; w. 2.7 cm.; thickness, 0.1 cm. Pl. 43 c (2/2). See Fig. 243.
- 33-1-51: wood: two frags. of carved wood probably from a chair or a coffin; (a) 28 × 5 cm. and 6.4 cm. thick; (b) 28 × 13 cm. and 3.0 cm. thick. Pl. 43 a. See Fig. 243.
- 33-1-52: wood: piece worked on all four sides; 27.4 × 6 cm. and 3.2 m. thick. See Fig. 243.
- 33-1-57: white sandstone: whet stone, copper stained on all sides; 12.2 × 11.0 × 5.4. See Fig. 243.
- 33-1-62: alab.: thirty-three model basins of type S-X b; h. 2.4-3.4 cm.; d. 3.9-4.8 cm. Pl. 43 b (1/1-12; 2/8-12).
- 33-1-63: alab.: model cylinder jar; type S-I d; h. 6.3 cm.; d. 4.6 cm. Pl. 43 b (2/5).
- 33-1-64: alab.: model barrel belted jar; type S-V extra; h. 7.2 cm.; d. rim, 3.0 cm.; d. max. 4.4 cm.; d. base, 2.4 cm. Pl. 43 b (2/6). See Fig. 243.
- Shaft G 2150 B: secondary shaft in south end of mastaba, west of serdab; 1.6 × 1.6 m. at top; 1.5 × 1.5 m. at bottom; —8.4 m. in rock; lined with grey masonry, 3.15 m., 10 courses.
- Chamber: type 6 a (3); on north; at 2.8 m. in rock; 1.15 × 2.25 m. and 0.95 m. high; area, 2.59 sq. m.; capacity, 2.46 cu. m.
- Shaft descends 5.6 m. below chamber but contains no second chamber.
- Completely plundered: a few intrusive objects in debris:
- 32-12-2, 3, 33-1-1: alab.: three frags. from standing male statuette: (a) from right leg: 13 × 4.8 × 6.8 cm.; (b) from left arm: 15.6 × 4.0 × 4.0 cm.; (c) from left shoulder: 14.0 × 7.3 cm. These frags. may have been thrown out from the serdab; on top of the mastaba at north end was found another frag. of a smaller statuette, and it may be that all these frags. were from another mastaba.
- 33-1-2: alab.: frag. of left shoulder of statuette, smaller than the above; 8.8 × 3.2 cm.

Later Constructions and Intrusions: for the avenue between G 2150 and G 2140 see above under G 2140.

No mastabas were built on the ground level east of G 2150 but after the sanding up of the cemetery, a number of intrusive shafts were made: shafts G 2150 S, T, V, X, Y, Z which represented small mastabas at a higher level. The area north of G 2150 between it and G 2220, eastwards of the exterior c.b. north chapel of G 2130, was

filled with several complexes of small mastabas, numbered G 2131-2139; in the continuation of this small field eastwards, the mastabas were numbered G 2151-2159.

The small mastaba G 2151 belonged to *hm-k* Ptah-wer whom I identify with the *hm-k* of Kanofer, owner of G 2150.

G 2155: southern core in eastern line of eastern group:

Excavated: by Prof. Junker (see Junker, *Giza II*, pp. 135-70).

Name: Kaninesuwt, *s* *nswt n ht-f*, *sm*, *hrp šndwt*, *šmr wty*, *wb* *Hr*, *qd-mr Dp*, *r* *pyw nbw*, *hry ššs n pr dwt*, *hry tp Nhb*, *hry wdb ht-nh*, *hks bit*, *hrp hst(?)km*, *hm ntr nb im-t s mht-t*, *hry-hb*, (*imy*)-*ht H*, *w(m)wro hb*.

Mastaba: core of type II a of normal size; estimated at 23.5 × 10.5 m.; area, 246.7 sq. m.; prop. 1/2.3; height, c. 5.0 m.

Converted into a mastaba of type VII-X by casing and extending the south end to include an interior chapel of type (4 a); 32.2 × 12.4 m.; area, 399.28 sq. m.; prop. 1/2.95; cased with mixed masonry (white and nummulitic limestone): better constructed and dressed on east face; intended to present the appearance of the smooth sloping casing of white limestone (see Junker's detailed description).

Chapel: interior chapel of type (4 a) and exterior c.b. chapel:

(a) N-S offering-room of white limestone with two niches, one at each end of west wall; 3.7 × 1.5 m.; area, 5.55 sq. m.; prop. 1/2.46; relation, 1/73.76; entered from east by doorway in north end of east wall, opening in embrasure in east face; window in south wall.

Subsidiary north niche; in north end of casing, a monolithic stela.

Exterior c.b. chapel of type (1 f): consisting of one room and an open court:

(b) vestibule room around doorway embrasure of room (a); 3.0 × 2.0 m.; area, 6.0 sq. m.; entered from north by doorway in east end of north wall (doorway from (c)).

(c) open court built between the northern face of room (b) and the south end of the added mastaba of the son: made after the addition of the mastaba of the son; 2.45 × 2.5 m.; area, 6.12 sq. m.

Total area, (a), (b), 11.55 sq. m.

Total area, (a)-(c), 17.67 sq. m.

Decoration of Chapel: see Junker, *Giza II*, p. 142:

West wall: south *ka*-door: architrave, tablet, crossbar, drum and two panels of the back of the outer niche; traditional decoration except the back panels of the outer niche:

Backs of outer niche: showing on each side two registers of one figure each facing in: two men on south, (a) holds out a jar, and (b) also holding out jar; on north, (a) holds a papyrus roll (?) and (b) holds bag over left shoulder.

West wall: north *ka*-door: similar to south *ka*-door but on backs of outer niche, one figure standing facing in: on each side a man stands holding out a *hs*-jar (*Pnw* on south and *Ib-k-pth* on north). The space north of the niche has one figure attached to the niche and another facing right.

West wall: between the two *ka*-doors: mixed offering and presentation scene; on right man and wife standing facing to left; in front of man, three children in horizontal row; to the left of the children, two registers, (1) four men standing facing to right, scribes; (2) five men standing facing to right (a) with ewer and basin, (b) with censer, and three carrying live birds; under the whole scene a sub-register, ten men bearing offerings, facing to right (meat and trussed fowl, live birds, &c.).

West wall, south of south *ka*-door: two registers each containing a man standing facing to right: (1) with papyrus roll and scribe's utensils, *ss pr mdst Whm-k*; (2) holds out two strips of linen: both figures attached to south *ka*-door.

West wall, north of northern *ka*-door: two registers: (1) contains figure of a woman standing facing to right, wife of Kaninesuwt (*rht nswt Nfrt-hs-nswt*) belongs to scene on north wall; (2) figure of *hm k* standing facing in to left holds out ewer and basin: subsidiary to north *ka*-door.

South wall: table scene: man seated at table of bread facing out to left; ideographic list; large offering list in horizontal registers; scene not completely preserved.

North wall: presentation of accounts: on left, Kaninesuwt standing with staff and wand facing out to right:

behind him on north end of west wall, his wife: between them a naked son (*Hr-wr*): on right in front of Kaninesuwt, three registers of scribes and accountants facing to left; eleven persons.

East wall: without chief figure: four registers, of which the upper three proceeding to left may be connected with scene on north wall and the fourth with offerers proceeding to right is connected with scene on south wall:

Reg. 1-2: estates; one Khufuw estate, two Sneferuw estates and Kaninesuwt estates bearing offerings to left.

Reg. 3: three men bringing animals to left, and on the right are two slaughter scenes, each with three men cutting up a bull.

Reg. 4: thirteen men bearing offerings, proceeding to right, men bringing the utensils and materials of the funerary meal.

Over entrance: two boats proceeding right: (1) upper boat with sail spread; chief figure leaning on staff; crew of seventeen men; above, in front of boat, two subregisters each with two running men (a) carrying coil of rope on pole, (b) first man with paddle: (2) papyrus boat paddled; chief figure leaning on staff; crew of thirteen men.

North doorjamb: Kaninesuwt seated at table of bread facing out to right; traditional table scene (hieroglyphic and short lists of offerings); to right of table four men facing to left (a) *wdpw hnty wr*, kneeling with jar and *nw*-pot; (b) *snmt sh n wt*, kneeling in *wt*-attitude; (c) standing holding out ewer and basin; (d) large figure, standing in *hry wdb* attitude.

South doorjamb: Kaninesuwt seated at table of bread facing out to left: both hands half-extended to table; to left of table four figures standing facing to right similar to north jamb but with variations; (a) *wdpw hnty wr*; (b) *snmt sh wt*; (c) in *hry wdb* attitude *wd iht hry-wdb*; (d) man standing holding haunch of beef.

South side of doorway, on south rebate of the door embrasure; probably related to the fourth register on the east wall; three registers: (1) and (2) picture list of offerings; (3) three men proceeding to right, (a) carrying meat pieces, (b, c) bringing in oryx.

Serdab: small E-W serdab behind south *ka*-door of offering-room; connected with niche by slot opening under drum; 0.6 × 0.8 m.; area, 0.48 sq. m.; floor about level with pediment of niche.

Shaft G 2155 A: sole shaft in position of shaft in one-shaft mastaba, north of middle in old core; 2.12 × 2.12 m.; —12.0 m. in rock, lined above with drab masonry, 5.0 m.

Chamber: type 4 a (4): on south; 4.0 × 4.3 m. and 2.2 m. high; area, 17.2 sq. m.; capacity, 37.84 cu. m.

Passage: 1.1 × 1.1 m. and 2.2 m. high.

Canopic pit: in SE corner; 0.8 × 0.6 m. and 0.6 m. deep.

West wall of chamber repaired with poor masonry.

Found by Junker, completely plundered.

Later Constructions and Intrusions: Professor Junker in *Giza II* shows the small mastaba of Kaninesuwt II son of Kaninesuwt I, built against the east face of G 2155 between the chapel and the north subsidiary niche.

Against the north end of G 2155 was a u-masonry mastaba.

Two inscribed stones were found in our excavations displaced from the complex of mastabas belonging to the Kaninesuwt family.

Photo. B 1095, April 23rd, 1912: found in the street east of G 2160; bears the titles of Kaninesuwt II; offering-stone with *htp* sign in low relief; base and left end cut square (as if fitting in masonry corner), while the other two sides were rounded: across the base of the *htp* sign two horizontal lines one on each side of middle. On left, facing to right, *wr md smrw nst hnt-t Ks-n-nswt*; (2) on right, facing left, *hm ntr Hwfw hry sst Ks-n-nswt*. See Fig. 269.

33-1-77: Photo. A 7045 (below): white limestone, 1.5 m. long, 0.15 m. high and 0.48 m. thick; broken in two; found in debris of shaft G 5080 (NE of G 2155); apparently from the top of a niche with statues in high relief (cf. Pen-meruw); probably from exterior c.b. chapel of the father (G 2155) but with titles of Kaninesuwt II; inscribed with one horizontal line facing to right, incised, *di nswt htp Inpw hnty sh ntr di Wsir hnty Ddw htp prt hrw n-f wp rnpt Dhwtyt tpy rnpt wsg hb Skr hb wr rkh prt Mnw ibd . . . nt hb nb r (nb) n wr md smrw Ks-n-nswt*.

G 2160: eastern group, second core in eastern line, north of G 2155.

See Map 5 and Figs. 271 (shaft), 272 (pottery bowl).

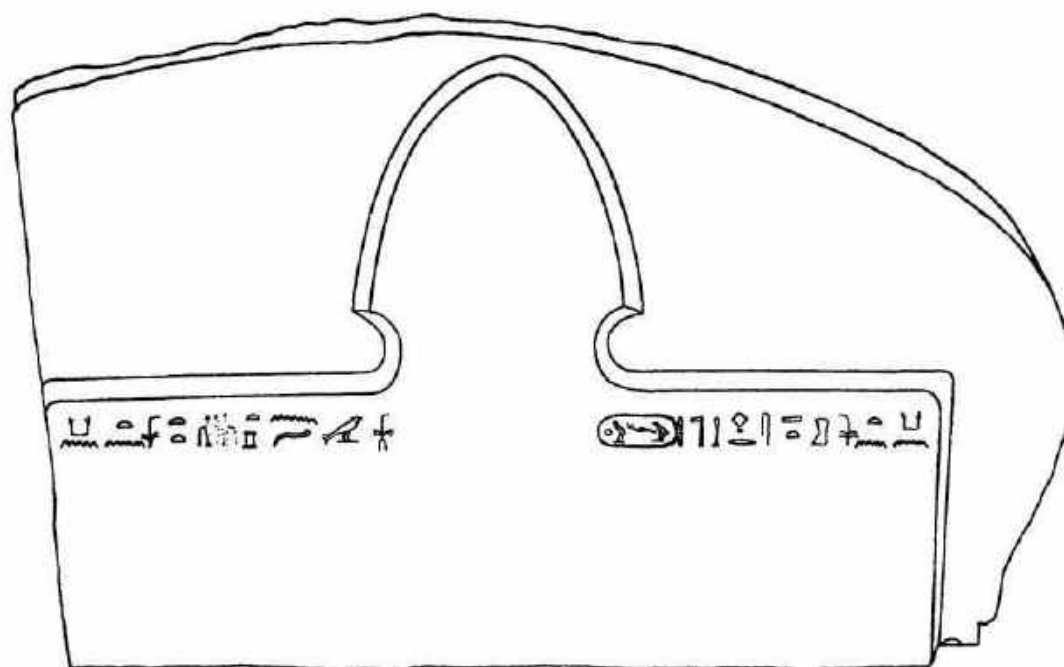
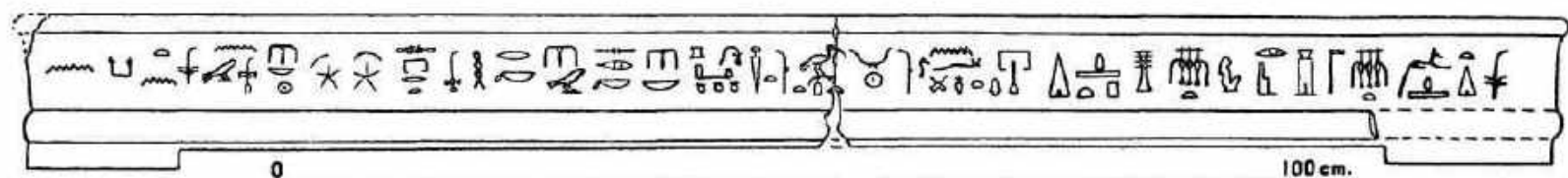


Fig. 269. G 2155



33-1-77

White Limestone

Fig. 270. G 2155

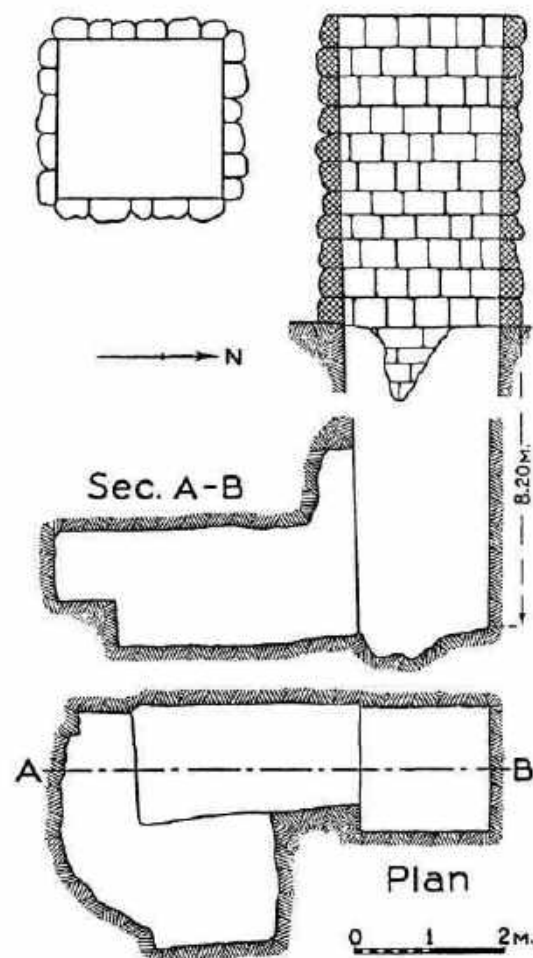


Fig. 271. G 2160

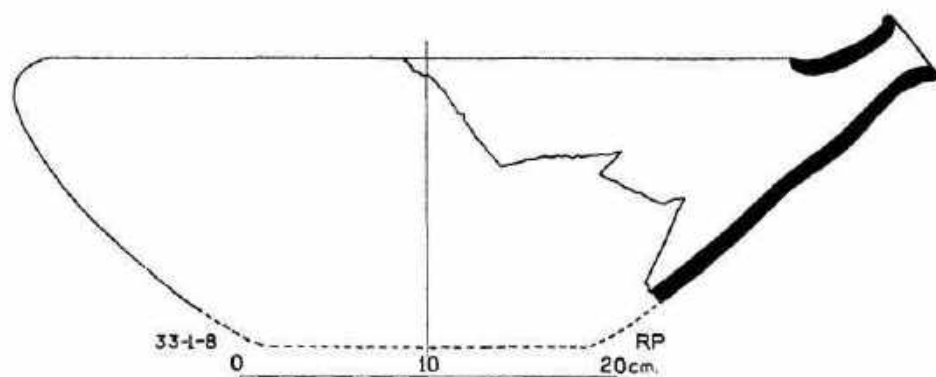


Fig. 272. G 2160 A

See Pl. 43 d.

Excavated: Jan. 21 to Feb. 25, 1912.

Name: none found.

Mastaba: old core of type II a uncased; 23.6×10.4 m.; area, 245.44 sq. m.; prop. $1/2.26$; h. 4.1 m.; average height of stepped courses, 45.5 cm.; average width of steps, 13.2 cm.

Chapel: probably originally of type (1), but all remains have been destroyed or obscured by later constructions in street.

Shaft G 2160 A: sole shaft, north of middle in position of shaft in one shaft mastaba; 1.9×2.05 m. at top; 1.7×1.55 m. at bottom; —8.0 m. in rock: lined with drab masonry, 4.1 m.; ten courses.

Chamber: type 4 a (2) x, unfinished; on south; 2.7×2.65 m. and 1.5 m. high; area, c. 7.15 sq. m.; capacity, 10.72 cu. m.; chamber floor not completely excavated.

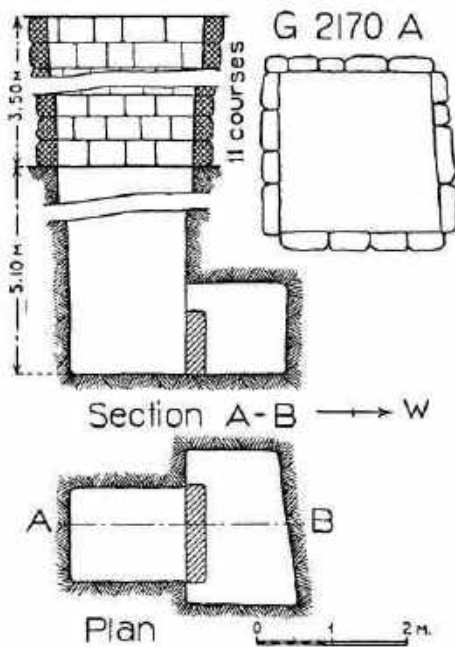


Fig. 273

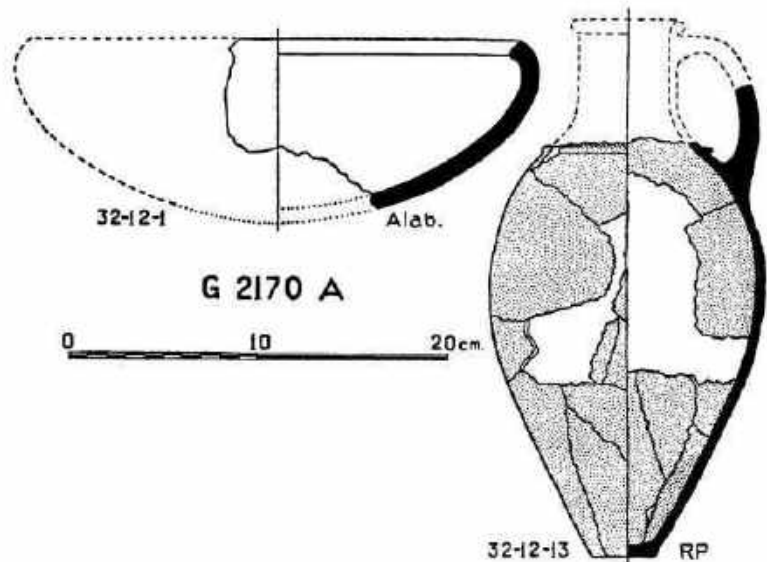


Fig. 274

Passage: 1.2×1.4 m. and 1.5 m. high; on shaft side over the doorway, a rebate to take top of blocking, 0.95 m. high, and 0.4–0.6 m. deep.

Found open and empty: in debris frags. of pottery basin:

33-1-8: RP: small basin with flat bottom and tubular spout; contracted plain mouth; type D-LXXII c; h. 13 (15.2) cm.; d. rim, 39 cm.; d. body, 43.2 cm.; d. base, 16.4 cm.; w. with spout, 49 cm. See Pl. 43 d, Fig. 272.

Later Constructions and Intrusions: in the avenue between G 2160 and G 2170 stands a complex of small mastabas, numbered, G 2161–4.

In the street east of G 2160 is another complex of small mastabas beginning on the south with G 2165 and, extending northwards with G 2166–69, it becomes the complex east of G 2170.

G 2170: eastern group, northern core in eastern line, north of G 2160, east of G 2150.

See Map 5 and Figs. 273 (shaft), 274 (pottery).

Excavated: Jan. 21 to March 23, 1912.

Name: none found.

Mastaba: core of type II a, not cased; 23.2×10.8 m.; area, 250.56 sq. m.; prop. $1/2.14$; height, 3.5 m.; average height of stepped courses, 43.7 cm.; average width of steps, 11.7 cm.

Chapel: probably exterior c.b. chapel of type (1), but all traces destroyed by later constructions.

Shaft G 2170 A: sole shaft, north of middle, as one-shaft mastaba; 2.07×2.05 m. at top; 1.25×1.5 m. at bottom; —5.1 m. in rock; lined with masonry, 3.5 m.; eleven courses.

Chamber: type 6 a (3): on west; 2.05×1.35 m. and 1.2 m. high; area, 2.76 sq. m.; capacity, 3.31 cu. m.

Blocking: c.b. wall inside doorway, type III a; penetrated at top.

Plundered: in debris of chamber, the following objects:

32-12-1: alab.: frag. about one-quarter of bowl with contracted mouth and internal rim, flat bottom (?); type S-X c; h. 8 cm.; d. max., 28 cm. See Fig. 274.

32-12-13: special ware: one-handed jug with cord in relief around base of neck; type B-LIII b; broken into 35 frags.; h. 23-6 cm.; d. rim, 6.0 cm.; d. neck 5.2 cm.; d. body, 14 cm.; d. base, 3.2 cm. Photo. A 7065 (2/5). See Fig. 274.

32-12-14: alab. frag. of bowl: 3×3 cm. and 0.8 cm. thick.

32-12-15 a: RW: model lower part of jar of type B-LVI; d. base, 3 cm.

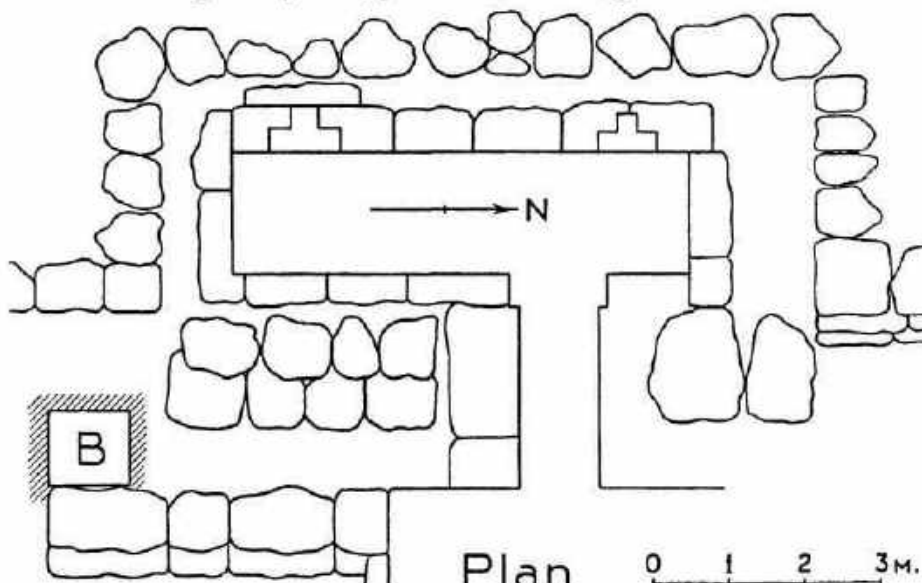


Fig. 275. G 2220

32-12-15 b: RP: frags. of bowl with recurved rim; 10 frags. (5 fitting) type D-XXXVI or C-XXXII; d. 22 cm.

32-12-17: potsherds: 8 frags. of different vessels, RW, WSR, &c.

Later Constructions: the street east of the mastaba was occupied by the small mastabas, continuing the complex G 2165-9 northwards with G 2171-9.

At the north end of the street, this complex merges into the secondary cemetery north of G 2150 (G 2151-9) (G 2221-7) and extends eastwards north of the Cem. en Échelon.

When the excavation of the northern strip of our concession in the Western Field was carried out in 1912, the work was continued eastwards across the northern end of the Cem. en Échelon and the core-mastabas of that cemetery were numbered in continuation of the cores of the eastern group of Cem. G 2100. Thus the mastaba I now designate as G 4990 was marked G 2180. The mastabas of the next line to the east now designated G 5080 and G 5090 were numbered G 2200 and G 2190. At that time the Cem. en Échelon had not been revealed by excavations and the mastabas in question with cores of type II a appeared to continue Cem. G 2100. At this point the excavation of the last mastaba of the western group of Cem. G 2100 was undertaken and the number G 2210 was assigned to it. East of G 2210 was another large mastaba on an independent site which was numbered in succession G 2220. At the present time it is clear that G 2210 was built around one of the five initial cores of Cem. G 2100. East of it stands G 2220, alined with it later in date but on an independent site built before any of the mastabas of the secondary cemetery. It is obvious that the owner of G 2220 was directly related to the owner of G 2210 and probably to the owner of G 2130. It seems therefore advisable to include the description of G 2220 in the description of Cem. G 2100 just as was done above for the mastabas of Mer-ib and Nensezerka. G 2210: see above following G 2130.

G 2220: on independent site east of G 2210 with its southern end alined with the southern end of that mastaba; separated from the north end of G 2150 by 13.8 m. and from the north end of G 2170 by 14.9 m.; not alined with either G 2150 or G 2170.

See Map 5 and Figs. 275 (chapel), 276 (shaft B), 277 (intrusive head-rest), 278 (shaft C).

See Pls. 41, 42.

Excavated: March 24-31, 1912; May 1 to August 14, 1932; Nov. 3-13, 1932.

Name: none preserved.

Mastaba: core of massive nummulitic corework, type IV-iii, with chapel recess near south end of east face; 62.0×20.4 m.; area, 1264.8 sq. m.; prop. $1/3.03$; height, 6.0 m.; on the west the retaining wall of massive blocks presents the high stepped courses of grey nummulitic limestone (as core type IV in Cem. G 4000); on the east the wall also of large grey blocks is built sloping as in mastabas of types VI a and VII a; the chapel recess in this east face measured 8.4×3.6 m.

The mastaba was designed to receive a white casing bonded with an interior chapel of white limestone; but this was only begun north and south of the projecting part of the chapel and left unfinished; the type intended was VII-x (2); the thickness of the white casing south of the chapel was 2.4 m.; if finished with a casing of this thickness the mastaba would have measured 66.8×25.2 m. with an area of 1683.36 sq. m.; prop. $1/2.65$; this was exceeded in size only by the two great mastabas, G 2000 and G 7510.

With subsidiary north niche (?).

Chapel: interior offering-room of type (4 a) of white limestone with unfinished decorations; built in recess in massive core and bonded with unfinished white casing; thus it appears to project outside the core; 6.0×1.6 m.; area, 9.6 sq. m.; prop. $1/3.75$; relation to the area of the massive core $1/131.75$; relation of the area of the unfinished cased mastaba, $1/175.35$; entered by rebated doorway in north end of east wall: with two *ka*-doors cut in the masonry of the west wall, one near each end.

Decoration of Offering-room: the decoration had been begun only on the east wall; on the left (north) end, man, wife, and child standing facing in to right; man with short skirt, panther skin, staff, and wand; wife wears lappet wig, long tunic and anklets and has her left arm around his shoulder and her right hand on man's right arm; son has left hand on staff and right hand to mouth; at the right (south) end of the wall, is another chief figure, a man standing facing out to left, short wig, short skirt, staff and wand: the space between was intended for registers but the execution was never begun: the niches and the other walls were left undecorated. See Pl. 41.

Shafts in G 2220: two shafts, C immediately north-west of chapel and B west of C; a third shaft A was presumed north of middle, but was found not to exist.

Shaft G 2220 B: west of shaft C, west of medial axis; 2.05×1.8 m. at top; 1.8×1.5 m. at bottom; — 4.4 m. in rock; lined with small grey masonry, 5.7 m.; sixteen courses (four high courses at top and twelve low courses below them).

Chamber: type 4 b (2): on north; at 2.9 m. at rock; 6.3×2.4 m. irregular; and 1.4 m. high; area, 15.12 sq. m.; capacity, 21.16 cu. m.

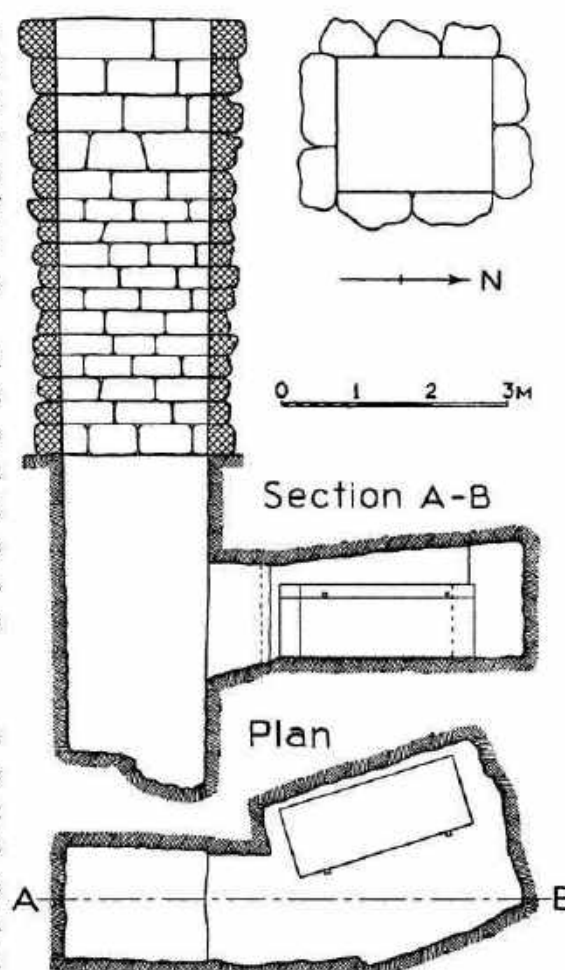


Fig. 276. G 2220 B

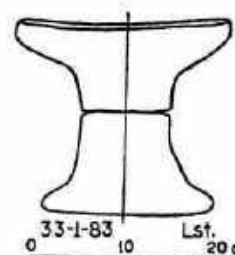


Fig. 277. G 2220

Passage: 0.85 × 1.4 m. (wide E-W) and 1.4 m. high.

Blocking: interior blocking built in three parts from bottom upwards, rubble, rough masonry and c.b. laid dry but apparently intact; type III d+c+a (3).

Coffin: 33-4-21: well-preserved wooden coffin; plain box with flat lid and overlapped bevel-joints; outside, 2.4 × 0.98 m. and 0.835 m. high; with lid 0.97 m. high; along each long side of lid two cylindrical handles which were sawn off after burial; three of these were found in the chamber.

Burial: in coffin, wrapped, extended, slightly on left side with head N, with legs together and hands at sides; body very small (female) in relation to coffin and lying close against west side and south end as if accidentally displaced at some stage of the burial; body probably originally extended on back; except for coffin and linen wrapping, no objects were found in chamber or coffin. See Pl. 42.

Wrappings of body: examined by Dr. Douglas Derry:

- (1) body with limbs wrapped separately; single thickness of linen band, 10 cm. wide; the legs and arms were wound to a thickness of 1 cm. with narrow tape (formed by folding or twisting a band); the lengths of tape were tied end to end.
- (2) over the body thus prepared were wound bands in thirty-seven layers around body and legs; as wrapping proceeded hollows were padded out with wads of linen, some folded in triangular form and others in round wads, &c.; to fill out the appearance of a body: one triangular pad was inscribed with black ink, *šmrt nfrt* (?), *isw* (?), 'fine linen' (?) . . . : another frag. was inscribed *šmrt nfrt*. . . (for a drawing, see Vol. II, chap. XIII, section 3).
- (3) The upper part of the body was then covered with narrow bandages, wound criss-cross to form the breasts which were moulded to a natural form by the use of wet resin (Derry), padded underneath the bandages the lower part of the body was wound with wide strips of linen; the breast nipples were made of little hard wads of linen stuck in the wrappings; the neck was filled with bandages wound around and around; the face was moulded in linen showing nose, mouth and eyes (eyes and eyebrows painted on linen); head wrapped with linen ending in a twist like a pig-tail.
- (4) A large sheet of linen was laid over the body looking like a tunic with V-shaped neck, leaving arms and lower part of legs exposed: similar to a statue.

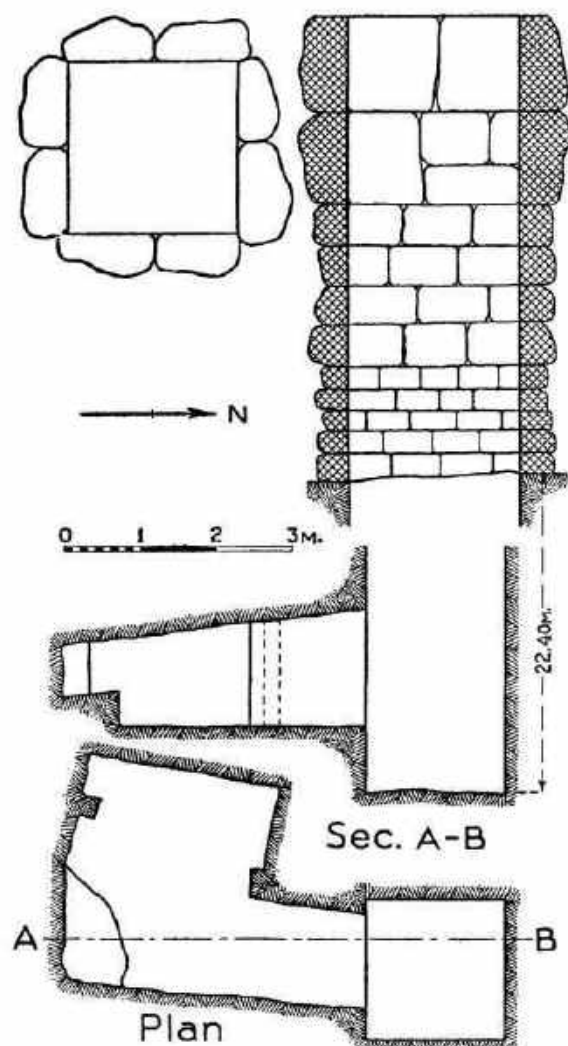


Fig. 278. G 2220 C

- (5) on top of the whole mummy was a rather crumpled sheet of linen, showing regular folds as if taken from a box (newly laundered); according to wrapped bodies of the O.K. found at Naga-ed-Dêr, the sheet had been spread evenly over the whole mummy: in the present case, the sheet had probably been disturbed by the sliding of the body in the coffin when the latter was placed in the chamber.

Photo. B 8265, blocking; Jan. 13, 1933.

Photo. B 8266-8267, unopened wooden coffin in place, looking north; Jan. 13, 1933.

Photo. A 7038-7039, mummy in coffin looking down to west; Jan. 16.

Photo. A 7040-7041, mummy in coffin: one picture looking down to north and the other to south; Jan. 19.

Photo. A 7042-7043, wrapped body after removing sheet; Jan. 21.

Photo. A 7044, body in stage (3) (see above); Jan. 21.

Photo. A 7045, head wrapping of stage (3); Jan. 21.

Photo. B 8313, breasts as stage (3); April 13.

Photo. A 7070, 7079, B 8314-8315, details of wrappings; April 13, 14, and May 10.

Photo. B 8317, linen with patch; April 17.

Photo. B 8316, worn piece of linen; April 13.

Photo. C 13418, piece with selvage; April.

Photo. B 8272, C 13376, ink inscription on linen; Jan. 26.

Photo. A 7077, tunic with V-neck; May 4.

Photo. A 7078, linen sheet laid over wrapped body, April 29.

Objects, found in debris of shaft, intrusive:

33-1-83: white limestone: headrest, rudely formed, with stem; broken in two; h. 21.6 cm.; l. 22.8 cm.; thickness, 10.2 cm.; Photo. C 13403 (on left). See Fig. 277.

Shaft G 2220 C: chief shaft (?); 2.25 × 2.2 m. at top; 1.8 × 1.85 m. at bottom; —22.4 m. in rock; lined above with drab masonry 6.1 m.; eleven courses, grey stone.

Chamber: type 4 a (1) irregular and unfinished; on south; 2.5 × 2.95 m. and 1.4 m. high; area intended, 7.37 sq. m.; capacity intended, 10.31 cu. m.

Passage: 1.55 × 1.3 m. and 1.4 m. high; south wall only partly excavated leaving a rock ledge.

Completely plundered: no objects found.

Date of G 2220: the size of this mastaba built on independent site, its relation to the mastaba G 2210 and the other mastabas of Cem. G 2100, make it apparent that G 2220 was begun and the massive core constructed sometime in the reign of Mycerinus; the change in the owner's fortunes which prevented the finishing of the casing and the white offering-room, was probably caused by the death of Mycerinus; the chief burial was probably carried out in the reign of Shepseskaf while that in shaft B was carried out in Dyn. V. The mastaba was designed as a two-shaft mastaba; the fact that the offering-room was a two-niched room is not definite evidence of a date later than Mycerinus because of the great size of the mastaba: the large mastabas earlier in date than Mycerinus had as a rule two-niched chapels: namely the enormous mastabas G 2000 and G 7510 and the mastaba of Prince Hemyuwnuw (G 4000).

APPENDIX D

DESCRIPTION OF CEM. G 4000

THE Cem. G 4000 consisted of mastaba cores of several types laid out in six E-W rows and eight N-S lines. I number the rows 1-6 from south to north and the lines 1-8 from west to east. The large mastaba of Prince Hemyuwnuw I mark as G 4000. It lies west of line 1 outside the unified plan, although connected with that plan by alignment. G 4000, the two northern rows (rows 5 and 6), and one mastaba in the fourth row, were excavated by Professor Junker, making a total of eighteen mastabas of Cem. 4000, and published fully in his *Giza I*. The clearing of these mastabas was carried out in three campaigns:

- (1) January 22nd to April 7th, 1912.
- (2) December 16th, 1912 to March 24th, 1913.
- (3) January 3rd to April 23rd, 1914.

The rows 1-4 were excavated by the Harvard-Boston Expedition. In the season 1912-1913 we had cleared the eastern end of the northern strip of the Western Field and come out on the Pyramid plateau at the NW corner of the Cheops Pyramid. The cleared strip included all the mastabas described in Appendixes A-C and had an E-W length of 300 m. The middle strip had passed from Professor Steindorff to Professor Junker. The southern strip had been assigned to Schiaparelli of the Turin Museum, but was given up by him and assigned to the Harvard-Boston Expedition in 1906. In October 1913 we began the examination and the excavation of the rows 1-4 of Cem. G 4000. The work proceeded as follows:

- (1) October 4th, 1913 to April 29th, 1914: excavation of row 4, G 4140-4740; row 3, G 4330-4830; row 2, G 4320-4720; and the intervening small mastabas.
- (2) In 1914-1915 the excavation was begun of the eastern end of the southern strip advancing from the east across the southern end of the Cem. en Échelon to the eastern side of Cem. 4000; in this connexion G 4820 was excavated.
- (3) November 9th, 1915 to January 5th, 1916: excavation of row 1, G 4310-4710, and the area of 4810 occupied by a complex of mastabas; the intervening small mastabas were excavated and those in the space between Cem. 4000 and the massive E-W wall south of the cemetery.

The total number of large mastabas of the unified plan in Cem. G 4000 amounted to 42, of which 18 were excavated by Professor Junker and 24 by the Harvard-Boston Expedition.

Cem. G 4000, as explained elsewhere, consisted of a nucleus of five mastabas to which were added a succession of additions as marked off by the type forms presented by their finished forms. This division, in chronological order, is as follows:

- (1) The initial five mastabas: the group of four, G 4150, 4160, 4250, and G 4260, initiated the unified plan; the mastaba of Prince Hemyuwnuw with a core of the same construction was built either before or after the block of four; the cores were all of type II b; the burial-chambers were all lined chambers of type 1; but the final finished mastabas varied; all excavated by Professor Junker.
- (2) The first addition of eight mastabas continuing the lines of rows 5 and 6 eastwards from line 3 to line 6, G 4360-4660 and G 4350-4650; all the cores were of type IV-i, but one of them, G 4350, had been faced with small stepped masonry and converted into core type III-i; the chambers had all been designed as lined chambers of type 1, but the chamber of the last core in the addition, G 4650, had been left unlined; the chapels were all of the exterior c.b. type (some of them altered in later times); all eight excavated by Prof. Junker.
- (3) The second addition consisted of nine mastabas, row 4, lines 1-7, G 4140-4740, and two cores in line 7, G 4750 and G 4760; the cores were all originally of type IV-i, but one core, G 4140, had been converted by facing into type III-i; the burial-chambers were all of type 2 (with ramp or stair inside chamber); all chambers were designed as lined chambers, but the lining had only been executed in four cases; most of these nine cores had an unfinished white casing with an exterior stone chapel, and it is probable that all were intended to be so finished; G 4140-4740 were excavated by us and G 4750 and G 4760 by Prof. Junker.
- (4) The third addition consisted of row 3, G 4330-4830 and line 8 north of G 4830 (G 4840-4860); the cores except one

were of type IV-i, while the last core, G 4860, was of type II a; the burial-chambers were of various unlined types and various sizes; G 4430 was dated by a sealing of Chephren; G 4330-4830 were excavated by us and G 4840-4860 by Prof. Junker.

- (5) The fourth addition of six mastabas consisted of row 2, G 4320-4820; all the cores were of type IV-i; the shafts were designed as 2-metre shafts and the cased part above was of this size, but the shaft excavated in the rock was much smaller; the chambers were of the unlined types and varied in size; the mastaba was a one-shaft mastaba, and when more than one burial was made in the mastaba, it was placed in a second or third chamber in the same shaft; excavated by our expedition; G 4520 was dated by a sealing to Weserkaf.
- (6) The fifth addition of five mastabas, row 1, G 4310-4710; the cores were built in succession to row 2; they were finished and used in the same way as those of row 2; G 4410 was dated by sealings to Weserkaf; the old core of G 4410 had been rebuilt and shifted northwards to form a mastaba of type IX a, with retaining walls of large sloping nummulitic blocks; G 4710 was the most elaborately finished mastaba of this group and appears to have been completed at the end of Dyn. IV, perhaps as early as Mycerinus; the easternmost core-site, G 4810, was left vacant and later in Dyn. V was occupied by a complex of mastabas.

The two western lines had cores only in rows 4-6. Rows 1-3 began on the west with line 3. The reason for the omission of the cores G 4110-4130 and G 4210-4230 was undoubtedly the existence of the quarry excavated by Schiaparelli between line 3 of Cem. G 4000 and the Shepseskaf-ankh complex (Cem. G 6000).

The Cem. G 4000 by reason of its size, its chronology, and the changes in the types of cores, finished mastabas, and burial-chambers is marked as one of the most important factors for the reconstruction of the history of the Giza Necropolis. The importance of the cemetery is further increased by the number of slab-stelae and 'reserve heads' recorded in the earlier mastabas (22 in number). For the slab-stelae see Pls. 52-56 and Junker, *Giza I*, and for the 'reserve heads' see Pl. 57 and Junker, *l.c.* The construction of the cores had without any doubt been begun in the reign of Cheops, and the unified plan developed by the mastabas built in that reign. I believe that these cores were built by the public works department of Cheops. The order of their construction has been outlined above. The whole of the forty-two cores may have been executed by Cheops. I find it difficult to maintain my original theory that the construction of the cores was continued by Chephren. The finishing of the mastabas and their use for burials certainly extended from the reign of Cheops to the reign of Weserkaf. In order to give a complete review of this great cemetery, I find it necessary to include descriptions of the mastabas excavated by Prof. Junker. My descriptions of these mastabas are summaries stating the type forms and sizes taken from Prof. Junker's complete publication of these mastabas in his report, *Giza I*. I take up the mastabas in the order of the construction as outlined above. In each group I take the individual mastabas in the order of the lines from west to east and in the order of the rows from north to south.

1. The five initial mastabas in Cem. G 4000: G 4000, G 4160, G 4260, G 4150, G 4250: excavated by Professor Junker (*Giza I*.)

G 4000: mastaba of abnormal size west of block of four, either earlier or later.

Junker, *Giza I*, pp. 132-162.

Name: Prince Hemyuwnuw, *ss nstwt n ht-f*.

On casing blocks, quarry marks with dates of years 15 (?) and 19 (?) (*hst sp 8*, *hst sp 10*).

Mastaba: core type II b, 47.0 × 21.45 m.; area, 1008.15 sq. m.; prop. 1/2.19.

Enlarged with the addition of massive corework of type IV-iii cased with smooth white limestone; 53.2 × 26.77 m.; area, 1424.16 sq. m.; prop. 1/1.98.

Chapel: interior chapel of type (5 a) of white limestone, with two *ka*-doors in west wall; 36.9 × 1.56 m.; area, 57.66 sq. m.; prop. 1/23.65; relation, 1/24.74; entered by doorway in south end of east wall; decorated with reliefs, badly damaged by destruction of masonry; the north niche was the chief niche.

Exterior c.b. chapel: type (lh); two rooms:

(b) N-S room around doorway to interior offering-room; 3.95 × 2.1 m.; area, 8.3 sq. m.; with statue niche in south wall; entered from north, from (c), by doorway in north wall.

(c) vestibule north of (b); 2.54 × 2.3 m.; area, 5.84 sq. m.; entered from north by doorway in north wall.

Total area, of c.b. chapel, (b) + (c), 14.14 sq. m.

Total area of interior and exterior chapels, (a) - (c), 71.7 sq. m.

Serdab: two serdabs, one behind each niche: in north serdab, a seated statue of Hemyuwnuw.

Shafts in G 4000: two shafts in the original core; north shaft, chief shaft in the position of the shaft in a one-shaft mastaba; the south shaft, secondary shaft, was added close south of the chief shaft to correspond with the altered form of the mastaba as finished.

Shaft G 4000 N: 2.2×2.2 m.; — 15.0 m. in rock; lined above with drab masonry, 5.0 m.; fifteen courses.

Chamber: type 1 blx; on south; lined and paved chamber; lined chamber, 5.3×4.4 m. and 3.85 m. high; area, 23.32 sq. m.; capacity, 89.78 cu. m.; rock chamber, 6.2×5.25 m. and 4.1 m. high; area, 33.15 sq. m.; capacity, 135.92 cu. m.

Passage: 3.22×1.25 m. and 1.25 m. high measured at right angles to the slope; the passage slopes downwards from shaft to chamber with a vertical drop of 2.2 m.; step down from floor of passage to pavement of chamber, 0.52 m.

Coffin: white limestone coffin with flat lid of type (d).

Shaft G 4000 S: unfinished, intruded south of north shaft; 2.4×2.2 m.; — 15.4 m. in rock; lined above with good drab masonry, 4.7 m.; fourteen courses.

Chamber: designed as north chamber; as left unfinished, type 3 brx; on south; 3.75×3.5 m. and 1.4 m. high; area, 13.13 sq. m.; capacity, 18.38 cu. m.

Passage: 2.2×1.0 m. and 1.1 m. high at right angles to the sloping passage enters chamber at roof level and at 0.47 m. above the floor; apparently the design was to make the chamber higher by cutting upwards.

Coffin: fragments of white limestone coffin at top of shaft.

Canopic pit: in SE corner.

G 4160: northern core in first line:

Junker, *Giza I*, pp. 162–168.

Name: not preserved.

Mastaba: core type II b; 23.6×10.4 m.; area, 245.44 sq. m.; prop. $1/2.26$; casing of white limestone begun but left unfinished on west; probably casing with white limestone begun on east, north, and south, but left unfinished or destroyed later.

Chapel: exterior c.b. chapel of type (1 b) built around the slab-stela and an exterior stone chapel of type (2 a):

(a) N–S room of white limestone, 2.7×0.9 m.; area, 2.43 sq. m.; prop. $1/3.0$; entered from east by doorway in north end of east wall; apparently without *ka*-door but used for decorations.

(b–c) a room with two arms at right angles: arm (b), E–W, with slab-stela exposed in niche in west end, 1.3×2.15 m.; area, 2.79 sq. m.; N–S arm, (c) on north, 2.4×0.95 m.; area, 2.28 sq. m.; total area, 5.07 sq. m.; entered from east by doorway in east wall of (c).

(d) small magazine north of (e) and entered from it; 1.05×1.65 m.; area, 1.73 sq. m.

(e) N–S hall with doorway opening into (c), (d), and (f); 3.6×1.65 m.; area, 5.94 sq. m.

(f) vestibule room, 2.7×1.65 m.; area, 4.45 sq. m.; entered from south; doorway to room (a) in west wall; on north, doorway to (e).

Total area, (b)–(f), 17.2 sq. m.

Total area, (a)–(f), 19.63 sq. m.

Shaft 4160 A: sole shaft; 2.0×2.0 m.; — 6.5 m. in rock; lined above with good drab masonry, 5.5 m.; sixteen courses.

Chamber: type 1 br, lined and paved; on south; lined chamber, 3.8×3.2 m. and 2.68 m. high; area, 12.16 sq. m.; capacity 32.59 cu. m.

Canopic pit: in SE corner.

Frgs. of stone and wooden coffins; 'reserve-head'.

G 4260: northern core in line 2, east of 4160:

Junker, *Giza I*, pp. 181–191.

Mastaba: core type II a; 23.7×10.75 m.; area, 254.77 sq. m.; prop. $1/2.2$; unfinished casing of X or Y masonry.

Chapel: type (2 a) + (1 b), similar to 4160.

(a) white limestone room without *ka*-door but decorated; 3.35×1.05 m.; area, 3.52 sq. m.; prop. $1/3.2$.

(b)–(e) exterior c.b. chapel with offering-room of bent form as G 4160 around emplacement for slab-stela.

Total area, (b)–(e), 15.45 sq. m.

Shaft G 4260 A: sole shaft: 2.0×2.0 m.; —6.45 m. in rock; lined above with good drab masonry, 4.5 m.; twelve courses.

Chamber: lined and paved; type 1 ar; on south; 3.15×3.45 m. and 2.77 m. high; area, 10.87 sq. m.; capacity, 30.11 cu. m.

Canopic pit: in SE corner with rebate for lid.

Frgs. from limestone and wooden coffins.

'Reserve-head': back of head and part of neck found.

G 4150: south of 4160:

Junker, *Giza I*, pp. 169–181.

Name: Prince Yuwnuw, *imy-rj ssw šmꜣw, wr mꜥ šmꜣw, sꜣ nšwt*.

Mastaba: core type II b; 22.5×9.5 m.; area, 213.75 sq. m.; prop. $1/2.36$; enlarged with addition of core work of type IV–iii, with chapel recess for interior chapel; cased in white limestone, perhaps unfinished and partly destroyed; final form mastaba type VI–x.

Chapel: original chapel probably of type (1 a); the slab-stela was found in place, well preserved, in its emplacement in the east face of the core (cf. G 1201, G 1223, and G 1225); the offering-room of the final stage was probably of type (3 a); 3.6×1.5 m.; area, 5.4 sq. m.; prop. $1/2.4$; exterior c.b. chapel of three rooms, type (1 f).

Total area (a)–(d), 10.27 sq. m.; statue niche in south wall of (d).

Shaft G 4150 A: sole shaft; 2.05×2.1 m.; —6.4 m. in rock; lined above with good drab masonry, 3.85 m.; ten courses.

Chamber: type 1 ar, lined and paved; on south; 3.1×3.3 m. and 2.45 m. high; area, 10.23 sq. m.; capacity, 25.06 cu. m.

Canopic pit: in SE corner.

Frgs. of white limestone coffin of type (d) and also of a wooden coffin (panelled?).

G 4250: core east of G 4150 and south of G 4260:

Junker, *Giza I*, pp. 191–194.

Name: not preserved.

Mastaba: core type II b, uncased; 23.8×10.2 m.; area, 243.76 sq. m.; prop. $1/2.33$.

Chapel: exterior c.b. chapel of type (1 a) of five rooms; in N–S line along face of core at SE corner.

(a) N–S offering-room with stepped face of mastaba exposed in west wall of room and slab-stela emplacement in middle of this wall; 6.5×3.0 m.; area, 19.5 sq. m.; prop. $1/2.17$; entered from north from vestibule (b), by doorway in east end of north wall.

Total area (a)–(e), 44.12 sq. m.; in room (c), a rectangular offering-basin.

Shaft G 4250 A: sole shaft; 1.9×1.9 m.; —7.5 m. in rock; lined above with good drab masonry, 3.24 m.; eleven courses.

Chamber: type 1 ar, lined and paved; on south; 3.15×3.32 m. and 2.44 m. high; area, 10.46 sq. m.; capacity, 25.52 cu. m.

Canopic pit: in SE corner.

2. The eight mastabas of the first addition to Cem. 4000: G 4350–4660 and G 4350–4650: excavated by Professor Junker (*Giza I*).

G 4360: northern row line 3:

Junker, *Giza I*, pp. 198–203.

Name: Mery-hetep-f, *sꜣb ꜥꜥ mr*, inscribed on offering-stone.

Mastaba: core type IV–i, not cased; 24.0×9.4 m.; area, 225.6 sq. m.; prop. $1/2.55$.

Chapel: exterior c.b. chapel of 4 or 5 rooms, of type (1 a) built around slab-stela in façade (emplacement remains).

(a) N–S offering-room; 3.4×2.1 m.; area, 7.14 sq. m.; prop. $1/1.62$; entered from north from (c) and from east from (d); doorway to magazine (b), in east end of south wall; emplacement for slab-stela in middle of west wall.

(b)–(d) rooms (b), (a), (c) from south to north along face of core; and room (d), perhaps two rooms, running N–S east of (b), (a), (c).

Total floor area, (a)–(d), 22.75 sq. m.

Shaft G 4360 A: sole shaft; 1.85×1.85 m.; —8.0 m. in rock; lined above with massive masonry.

Chamber: type 1 ar, lined and paved; on south; 2.5×2.8 m. and 2.2 m. high; area, 7.0 sq. m.; capacity, 15.4 cu. m.

Canopic pit: in SE corner with rebate for lid (?).

Coffin: white limestone coffin with flat lid of type (d).

In debris, left ear of white limestone 'reserve-head'.

G 4460: row 6, line 4:

Junker, *Giza I*, pp. 203–205.

Name: not preserved.

Mastaba: core type IV-i, not cased; 23.1×9.97 m.; area, 230.3 sq. m.; prop. $1/2.31$.

Chapel: exterior c.b. chapel of type (1 a): four rooms:

(a) N–S offering-room with slab-stela emplacement near south end of west wall; 6.3×2.1 m.; area, 13.23 sq. m.; prop. $1/3.0$; entered from north by doorway in east end of north wall; doorway to (c) in north end of east wall; doorway to (b), in east end of south wall.

(b)–(d) room (b) is a magazine south of (a); along the east side of (a), (b) runs from north to south, vestibule (c), and long room (d) (perhaps two rooms).

Total area, 32.19 sq. m.

Shaft G 4460 A: 1.95×1.95 m.; —8.0 m. in rock; lined above with massive masonry.

Chamber: type 1 am, lined and paved; on south; 3.1×3.35 m. and 2.9 m. high; area, 10.9 sq. m.; capacity, 30.13 cu. m.

Canopic pit: in SE corner with rebate for lid.

Coffin: white limestone of type (d).

'Reserve-head': frags. of 'reserve-head' of white limestone.

G 4560: row 6, line 5:

Junker, *Giza I*, pp. 208–211.

Name: not preserved.

Mastaba: core type IV-i, not cased; 22.57×7.87 m.; area, 177.62 sq. m.; prop. $1/2.86$.

Chapel: exterior c.b. chapel of type (1 a); badly denuded; traces of three rooms; emplacement for slab-stela in face of mastaba core; street north of chapel blocked by mastaba of Ka-m-ankh.

Shaft G 4560 A: sole shaft; 1.85×1.85 m.; —7.0 m. in rock; lined above with massive grey masonry.

Chamber: type 1 al, lined and paved; on south; 3.18×3.35 m. and 2.58 m. high; area, 10.65 sq. m.; capacity, 27.48 cu. m.

Canopic pit: in SE corner with rebate for lid.

Coffin: white limestone of type (d).

Room paved with layer of mortar, not with masonry.

G 4660: row 6, line 6:

Junker, *Giza I*, pp. 213–216.

Name: no name.

Mastaba: core type IV-i, not cased; 23.25×8.75 m.; area, 203.43 sq. m.; prop. $1/2.65$.

Chapel: exterior c.b. chapel of type (1 c) with no evidence of slab-stela; five rooms, (a)–(b) on west and (c)–(e) on east.

(a) N–S offering-room with compound niche in south end of c.b. west wall; 6.05×1.9 m.; area, 11.5 sq. m.; prop. $1/3.18$; entered from east, from (c), by doorway in north end of east wall; doorway to (b) in embrasure in south wall.

Total area, (a)–(e), 21.11 sq. m.

Shaft G 4660 A: sole shaft; 2.0×1.7 m.; —7.0 m. in rock; lined above with massive masonry.

Chamber: type 1 cl, lined but not paved; on south; 3.7×3.6 m. and 2.8 m. high; area, 13.32 sq. m.; capacity, 38.29 cu. m.

No canopic pit.

Frags. of white limestone coffin of type (d).

'Reserve-head' of white limestone.

G 4350: row 5, line 3:

Junker, *Giza I*, pp. 194-198.

Name: no name.

Mastaba: core of type III-i, consisting of massive corework faced with small stepped courses of drab limestone (appearance of type II a and b); faced core not cased; massive core, 22.4×9.3 m.; area, 206.08 sq. m.; prop. $1/2.4$; faced core, 25.2×11.6 m.; area, 292.3 sq. m.; prop. $1/2.2$.

Chapel: exterior c.b. chapel of type (1 a) built around slab-stela (emplacement recorded); four rooms (a)-(d) in N-S line along face of core.

(a) N-S offering-room; 5.3×2.4 m.; area, 12.72 sq. m.; prop. $1/2.21$; entered from north from room (c) by doorway in east end of north wall; doorway to (b), in east end of south wall; emplacement for slab-stela in niche, south of middle of west wall.

Total area, (a)-(d), 28.26 sq. m.

Shaft G 4350 A: sole shaft; 1.85×1.85 m.; -7.9 m. in rock; lined above with massive masonry.

Chamber: type 1 cm, lined and paved; on south; 3.4×3.35 m. and 2.55 m. high; area, 11.39 sq. m.; capacity, 29.04 cu. m.

Canopic pit: in SE corner, with rebate for lid.

G 4450: row 5, line 4.

Junker, *Giza I*, pp. 206-208.

Name: no name.

Mastaba: core type IV-i, not cased; 22.0×8.4 m.; area, 184.8 sq. m.; prop. $1/2.61$.

Chapel: exterior c.b. chapel of type (1 a) around emplacement for slab-stela; three rooms preserved; on west offering-room (a); east of (a), two rooms, vestibule (c) on south and magazine (b) north of (c); (c) entered from north, east of south end of (b).

(a) N-S offering-room; 4.7×1.7 m.; area, 7.99 sq. m.; prop. $1/2.76$; emplacement for slab-stela exposed in south end of west wall opposite entrance from vestibule; entered from east from (c), by doorway in south end of east wall; doorway to (b), in north end of same wall.

Total area, (a)-(c), 14.06 sq. m.

Shaft G 4450 A: sole shaft; 2.1×2.05 m.; -8.18 m. in rock; lined above with massive masonry.

Chamber: type 1 cm, lined and paved; on south; 3.4×3.45 m. and 2.4 m. high; area, 11.73 sq. m.; capacity, 29.15 cu. m.

Canopic pit: in SE corner; with rebate for lid.

G 4550: row 5, line 5:

Junker, *Giza I*, pp. 211-213.

Name: no name found.

Mastaba: core of type IV-i, not cased; 21.0×7.87 m.; area, 165.27 sq. m.; prop. $1/2.66$.

Chapel: exterior c.b. chapel of type (1 c); five rooms, (a)-(c) on west and (d)-(e) on east; room (b), south of (a) and room (c) north of (a); on east magazine (d) on south and vestibule on north; vestibule (e), entered from north probably from open court.

(a) N-S offering-room, 2.75×2.45 m.; area, 6.74 sq. m.; prop. $1/1.12$; face of core exposed (perhaps accident of preservation) in west side of room; offering-table in NW corner; entered from north from (c); doorway to (b) in east end of south wall.

Total area, (a)-(e), 22.73 sq. m.

Shaft G 4550 A: sole shaft; 2.0×2.1 m.; -8.0 m. in rock; lined above with massive masonry.

Chamber: type 1 cm, lined and paved; on south; 3.28×3.33 m. and 2.68 m. high; area, 10.92 sq. m.; capacity, 29.36 cu. m.

Hole in pavement in SE corner; no trace of canopic pit.

G 4650: row 5, line 6:

Junker, *Giza I*, pp. 216-227.

Name: Princess Yabtyt.

Mastaba: core type IV-i, not cased; 21.0×8.4 m.; area, 176.4 sq. m.; prop. $1/2.5$.

Chapel: exterior c.b. chapel of type (ic) built or rebuilt by the *hm-k* Kay; five rooms, two offering-rooms, (b) (on south) and (a) (on north) along the core; and (c)-(e) on east; room (c) at north of eastern rooms is a vestibule room entered from north by a stone ramp.

(a) N-S offering-room, with face of core as west wall; 4.75×2.5 m.; area, 11.88 sq. m.; prop. 1/1.88; entered from east, from (c) at north end of east wall; doorway to (b) in south wall.

(b) E-W offering-room, south of (a), with stone niche in west wall flanked by stone slabs; 1.35×2.9 m.; area, 3.82 sq. m.; prop. 1/0.46; entered from north, from (a); stone construction and decoration carried out by *hm-k* Kay.

Total area, (a)-(c), 27.45 sq. m.

Shaft G 4650 A: sole shaft; 1.85×1.85 m.; —9.0 m. in rock; lined above with massive masonry.

Chamber: type 3 cm; obviously designed as a lined chamber of type 1 cm, like G 4550, but left unlined; on south; 3.95×4.0 m. and 3.05 m. high; area, 15.8 sq. m.; capacity, 48.19 cu. m.

Canopic pit: in SE corner; with rebate for lid.

Coffin: white limestone of type (d).

'Reserve-head'.

3. The nine mastabas of the second addition to Cem. G 4000: 4140-4740, 4750, and 4760: seven excavated by Harvard-Boston Expedition and two by Professor Junker.

G 4140: row 4, line 1:

See Map 6 and Figs. 3 (mastaba), 20 (shaft), 279 (objects), 280 (detail of slab-stela).

See Pls. 46 a-f, 52, 57 a, 58 d, e, f 59 e.

Excavated: by Harvard-Boston Expedition: October 30th to December 4th, 1913.

Name: Princess Merytyetes, *sst nswt nt ht-f*.

Mastaba: Core type III-i; original one-shaft massive core of grey nummulitic limestone; 22.55×9.6 m.; area, 216.48 sq. m.; prop. 1/2.35; height, 5.0 m.

Massive core faced with small stepped masonry on east, south, and west, and stepped facing prolonged to the north to include an annex shaft for husband; core type III-i; 29.4×11.45 m.; area, 336.63 sq. m.; prop. 1/2.57; average height of stepped courses, 35 cm.; average width of steps, 11.5 cm.; with slab-stela in emplacement in stepped face.

The final form consisted of a casing of white masonry, and a number of blocks had been set along the east face of the stepped facing; in connexion with this casing an exterior stone chapel was also left unfinished.

By the facing the stepped core was given the form of an annex-mastaba with secondary shaft for husband on the north, but approached the form of the two-shaft mastaba.

Chapel: the slab-stela set in the stepped wall of the facing indicates that there was at one time an intention of finishing the mastaba with an exterior c.b. chapel of type (1 a).

The chapel actually begun was an exterior stone chapel of type (2 b) built against the white casing; only the foundation platform of this exterior chapel of type (2 b) remains; the traces of foundation lines on this platform prove that the walls had been partly or wholly constructed and afterwards destroyed; the stone chapel appears to have contained two rooms, (a) and (b); north of the chapel were the remains of c.b. walls indicating an exterior c.b. chapel of type (1 e):

(a) N-S offering-room of white limestone, probably built around a niche cut in the casing; 4.3×1.5 m.; area, 6.45 sq. m.; prop. 1/2.87; probably entered from east from room (b) by doorway in north end of east wall.

(b) N-S room of white limestone, east of (a); 4.3×1.0 m.; area, 4.3 sq. m.; entered from north from c.b. chapel.

(c) c.b. court (?) north of stone chapel; badly destroyed; 3.0×3.1 m.; area, 9.3 sq. m.

Total area, (a), (b), 10.75 sq. m.

Total area, (a)-(c), 20.05 sq. m.

Decoration of slab-stela: long slab; cf. in general slab of Seshat-sekhentiw (Pl. 57, Fig. 280):

Princess Merytyetes seated at table of bread facing to right; with left hand open on breast and right extended to table; lappet-wig and long tunic; under table ideographic list, with ointment and linen on left and bread and beer on right; the ideographic list is continued to the right of the table with two horizontal lines, (1) list of

cattle with 1,000 signs and (2) list of birds with 1,000 signs; in front of the face is written vertically a *kbh* vase on a stand and *ir* with ewer and basin; a second vertical line is on the right above the bread, *bd* 3, *šmn*

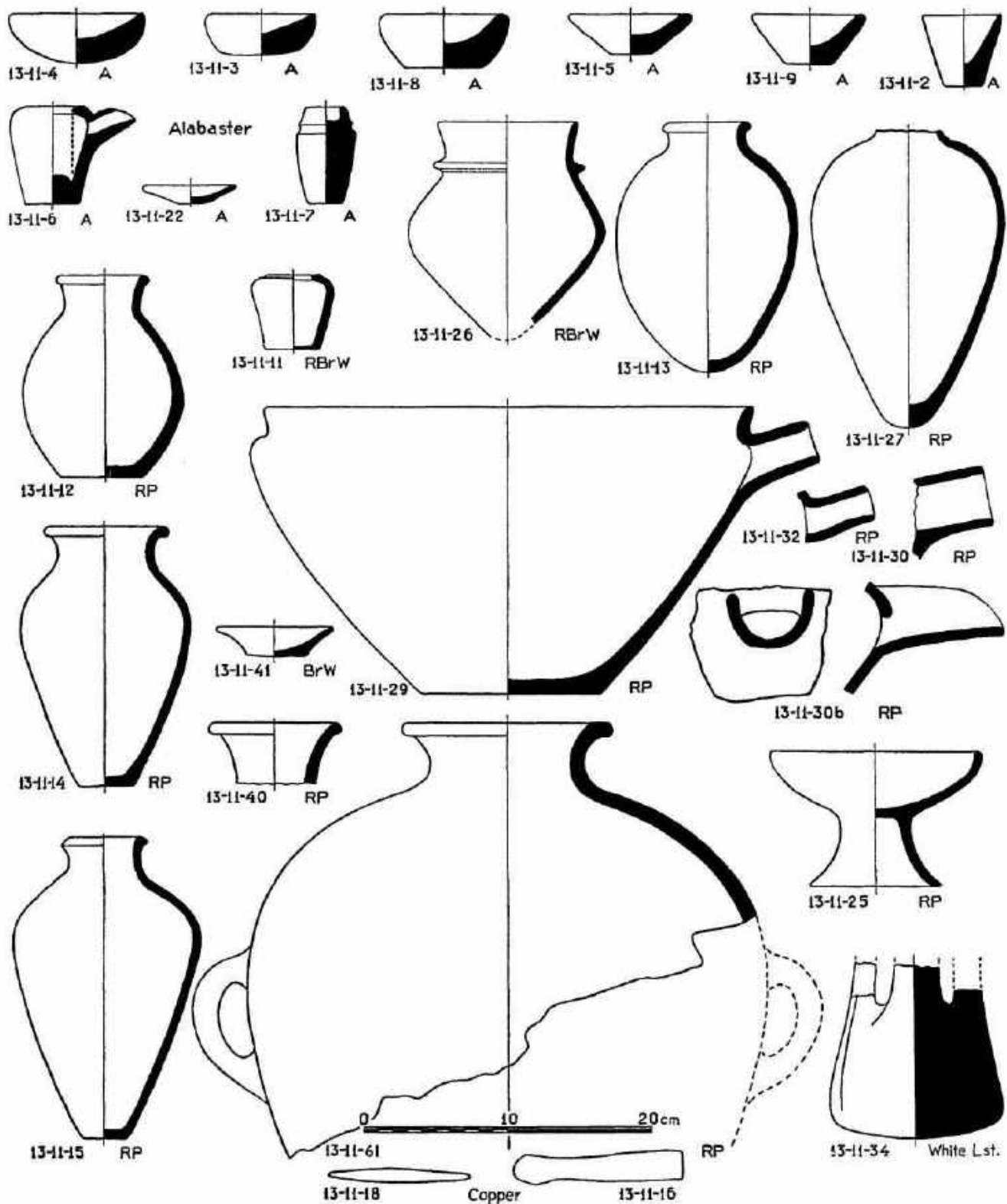


Fig. 279. G 4140

(with headless goose); above the table, to the right is a list of offerings in four horizontal lines: (1) nearly illegible by weathering, incense, eye-paint, etc.; (2) list of fruits, grains and breads; (3) list of breads and cakes; (4) on the left, six jar stands with bowls and above them, two haunches of beef; to the right are drinks,

hkt, pr, shpt, hdt. The right side of the slab is taken by an old compartment list, four kinds of linen, and row of granaries. At the top of the stela on the left, *syt [nswt n]t ht-f Mr[t]-it-[s]*. Photo. B 1058.

Shafts in G 4140: two shafts, A in the massive core in place of shaft in one-shaft mastaba; shaft B, in northern annex formed by extension of stepped facing.

Shaft G 4140 A: chief shaft, burial-place of Princess Merytyetes; 2.0 × 2.1 m. at top; 2.1 × 1.86 m. at bottom; —10.63 m. in rock; lined above with massive masonry 5.0 m. 12 courses on north, six on south.

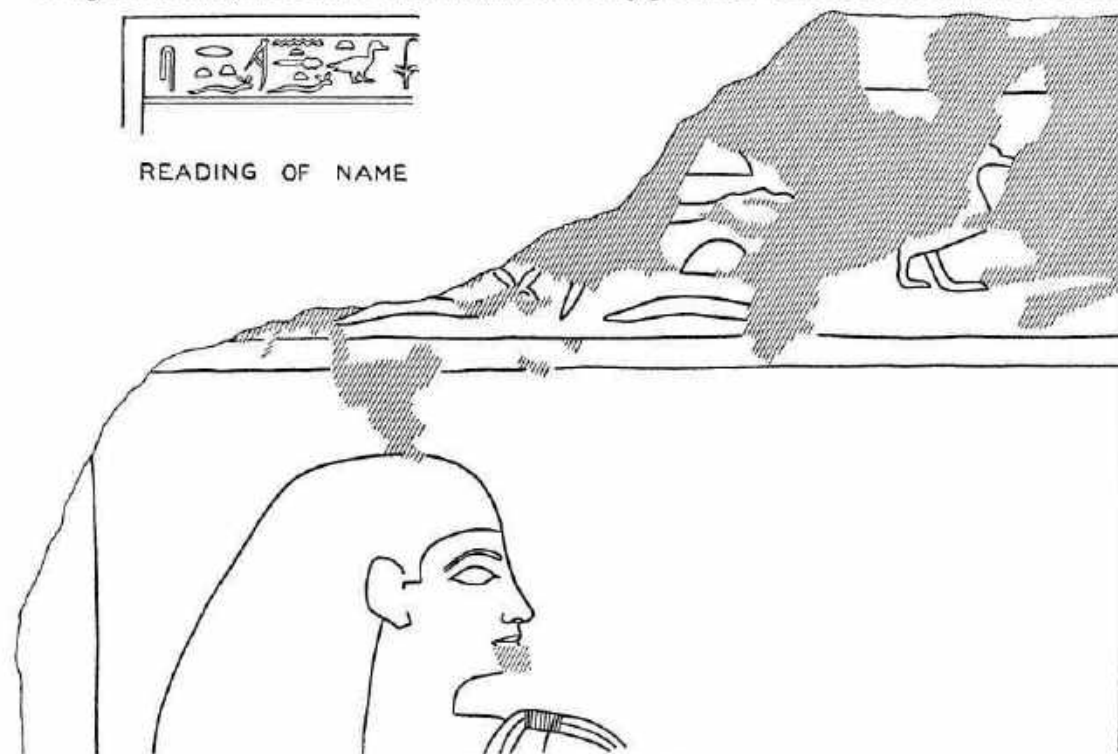


Fig. 280. G 4140

Chamber: type 2 brx (ramp); lined and paved on south; lined chamber, 4.25 × 3.87 m. and 2.85 m. high; area, 16.45 sq. m.; capacity, 46.88 cu. m.; rock chamber, 5.1 × 4.65 m. and 3.1 m. high; area, 23.71 sq. m.; capacity, 73.47 cu. m.

Passage: sloping passage entering at roof-level; 2.4 × 1.32 m. and 1.25 m. high, at right angles to slope; rock-cut ramp from end of passage to floor of chamber, 2.55 × 1.05–1.2 m.; 1.7 m. high at passage end.

Blocking: remains of interior masonry blocking; and portcullis slab; type I b (1).

Coffin: frags. of decayed wooden coffin.

Two reserve heads, man and woman; man's head found in shaft near top of portcullis stone; woman found in debris inside the chamber.

Scattered in thieves' debris in chamber and bottom of shaft were found many pottery vessels shattered in frags., many pottery and stone models, and models of copper tools; among this was found a large female skull.

Objects from G 4140 A:

13-10-70: white limestone; portrait head of a man (reserve head); Pl. 52; head as found, Pl. 46.

13-11-1: white limestone; portrait head of a woman, Princess Merytyetes; nose damaged; Pl. 52; head as found, Pl. 46.

Alabaster: model vessels:

Type S-X a (1) model flat-bottomed basins; 15 examples and 2 frags.:

13-11-5: 6 examples; h. 3 cm.; d. 8.6 cm.; d. base, 2.8 cm., examples vary from d. 8.5 to 6.4 cm. Pl. 58 e (1/1).

Fig. 279.

13-11-9: 1 example; h. 3.6 cm.; d. 8 cm.; d. base, 3.2 cm.; tube-bored and rubbed. Pl. 58 e (2/3). Fig. 279.

13-11-10: 5 examples and 2 frags.; h. 2.9 cm.; d. 6.4–7.5 cm. Pl. 58 e (1/2, 3:2.4).

13-11-21: 1 example; h. 2.9 cm.; d. 7 cm.

13-11-22: 1 example; h. 1.2 cm.; d. 6.7 cm.; d. base, 2 cm. Fig. 279.

13-11-24: 1 example; h. 3.2 cm.; d. 8.8 cm.

Type S-X a (2): 1 example:

13-11-2: 1 example; h. 5 cm.; d. 5.7 cm.; d. base, 2.8 cm. Pl. 58 e (3/2). Fig. 279.

Type S-X b: model basins, flat bottom and convex sides; 2 examples:

13-11-4: 1 example; h. 3.2 cm.; d. 9.4 cm.; d. base, 3.4 cm. Pl. 58 e (3/4). Fig. 279.

13-11-8: 1 example; h. 3.8 cm.; d. top, 8.4 cm.; d. max. 8.8 cm. d. base, 3.2 cm.; tube bored and rubbed. Pl. 58 e (2/1). Fig. 279.

Type S-X d: model of ewer with spout; 1 example:

13-11-6: 1 example; h. 6.6 cm.; d. mouth, 3 cm.; d. shoulder, 5.6 cm.; d. base, 3.8 cm.; width with spout, 8.6 cm. Pl. 58 e (3/1). Fig. 279.

Type S-XVI a: model collar jar; 1 example:

13-11-7: h. 6.6 cm.; d. top, 3.0 cm.; d. collar, 3.8 cm.; d. body, 4 cm.; d. base, 2.2 cm. Pl. 58 e (3/3). Fig. 279.

Total of type S-X a and b, 18 examples; one ewer of type S-X d; one example of type S-XVI a; sum total, 20 examples.

Pottery: Group A:

Type A-II b: large wine-jars; WSR; 3 examples, broken and incomplete (See Pl. 59 e):

13-11-52, 53: 2 examples; h. 36 cm.; d. rim, 10 cm.; d. max. 25 cm.

13-11-63 c: 1 example; h. 36 cm.; d. rim, 13 cm.; d. max. 22 cm.

Type A-V a: RP; 2 examples:

13-11-27, 28: h. 20.5 + (c. 24 cm.); d. max. 13.5 cm. Fig. 279.

Type A-VI c: RP; 1 example:

13-11-13: h. 17 cm.; d. rim, 6 cm.; d. max. 12.6 cm. Fig. 279.

Type A-LI: bag-shaped pot; 1 example:

13-11-45: frag. from side, h. 5.5 + cm.

Type A-LVI: collar jar with pointed base; 1 example:

13-11-26: RBrW; h. 14 + cm.; d. rim, 9.8 cm.; d. coll. 10.6 cm.; d. max. 14 cm. Fig. 279.

Pottery: Group B:

Type B-XVII b: ovoid-necked jars RP; 3 examples:

13-11-14: RP; h. 18 cm.; d. rim, 8.6 cm.; d. max. 12.0 cm.; d. base, 3.8 cm. Fig. 279.

13-11-15: RP; h. 21 cm.; d. rim, 5.4 cm.; d. max. 15.2 cm.; d. base, 3.4 cm. Fig. 279.

13-11-63 e: RP; h. 21 cm.; d. rim, 9.0 cm.; d. max. 14.0 cm.; d. base, 7.0 cm.

Type B-XVII c: elliptical jar with neck: 1 example:

13-11-12: RP; h. 14 cm.; d. rim, 6.2 cm.; d. max. 11.2 cm.; d. base, 5.6 cm. Fig. 279.

Type B-XVII: frags. not to be classed more closely:

13-11-40: RBrW; neck only, h. 4.2 cm.; d. rim, 8.6 cm.; d. neck, 5.6 cm. Fig. 279.

13-11-44: RP; neck only; h. 3.2 cm.; d. rim, 6.4 cm.; d. neck, 4.2 cm.

Type B-LIV: special ware, two-handled oil jars; 3 examples:

13-11-61: h. 31 + cm.; d. rim, 14.6 cm.; d. neck, 11.0 cm.; d. max. 36 cm. Fig. 279.

13-11-62: frags.

13-11-63: frags. of 2 examples.

Type B-LV: neckless shoulder-jar; 3 examples:

13-11-11: RBrW; h. 5.2 cm.; d. max. 5.6 cm.; d. base, 4.0 cm. Fig. 279.

13-11-43: RBrW; h. 11 + cm.; d. max. 12.8 cm.; d. base, 8.8 cm.

13-11-46: RBrW; frag. of base; h. 11 + cm.; d. base, 8.8 cm.

Group C: round-bottomed basins and bowls:

Type C-XXX a (1); bent-sided bowl, 1 example:

13-11-63 d: RP; h. 25 cm.; d. rim, 45 cm.; d. bend line, 42 cm.; h. of top, 7.5 cm.

Type C-XXXII b (1): round bottomed with recurved rim; 1 example:

13-11-63 b: RP; h. 11.0 cm.; d. max. 27 cm.

Group D: flat-bottomed basins and bowls:

Type D-XXXV c: basin with open spout; 3 examples:

13-11-30, 33: RP; frags. of 3 examples. Fig. 279.

Type D-XXXVI a: recurved rim and tubular spout; 2 examples:

13-11-31: RP; frags. of 2 examples.

Type D-XXXVI b: recurved rim, tubular spout, high rim; 1 (?) example:

13-11-29: RP; frags. including spout; h. 20 cm.; d. rim, 34 cm.; d. max. 35.6 cm.; d. base, 12.2 cm.; length with spout, 39.4 cm. Fig. 279.

13-11-32: RP; spout and part of rim. Fig. 279.

Type D-LXXI a: large tub with band rim; 1 example:

13-11-51: mud ware; frag. of rim.

Type D-LXXIX b-m: models of basins; 1 example:

13-11-41: BrW; h. 2.2 cm.; d. rim, 8.2 cm.; d. base, 4.2 cm. Fig. 279.

Pottery Group E: bowl tables, bowl stands, and ring stands:

Type E-XXI a: bowl table; 1 example:

13-11-25: RW; h. 8 cm.; d. max. 15 cm.; d. base, 9 cm. Fig. 279.

Pottery: type not identified:

13-11-42: RW, red wash; spotted with black haematite specks; a frag. from body of jar; probably type VI or XVII.

13-11-47-50: small frags. of various ware.

SUMMARY OF POTTERY TYPES:

Group A: type II-b, 3; V, 2; VI, 1; LI, 1; total 8 jars.

Group B: type XVII, 4+; LIV, 3; LV, 3; total 10 jars.

Group C: type XXX, 1; XXXII, 1; total 2 bowls.

Group D: type XXXV, 3; XXXVI, 3; LXXI, 1; LXXIX, 1; total 8 flat-bottomed basins and bowls.

Group E: type XXI a, 1; total 1 bowl stand.

Total number of identified types, 29 vessels, distributed in 15 types.

Copper Models (Pl. 58 f.):

Adze: 1 complete example and a fragment:

13-11-16: adze; l. 11.5 cm.; w. edge, 2.1 cm.; d. min, 1.4 cm.; w. rounded butt, 1.6 cm. Fig. 279.

13-11-17: frag. blade of model adze; l. 4.5+ cm.

Chisel: incomplete model: 1 example:

13-11-18: pointed chisel; l. 10 cm.; w. of haft, 1.0 cm. Fig. 279.

Unidentified:

13-11-19: 3 frags.

Miscellaneous Objects:

13-11-34: white limestone; lower part of two-handled pounding and rubbing stone (Pl. 58 d, Fig. 279); the upper half was found in the thieves' debris thrown out from shaft A, on the western side of the mastaba, December 23rd, 1925, 25-12-331: h. 50 cm.; d. top, 22 cm.; d. base, 24 cm.; w. with handles, c. 18 cm.; not a practical implement; one granite hammer of similar form found in the pyramid of Mycerinus (*Myc.*, Pl. 20 a-c).¹

13-11-35: white limestone; frag. from the bottom of a shallow round-bottomed dish.

13-11-54: plaster; frag. of plaster from bottom of a bowl or basin; used in sealing blocking (?).

13-11-55: granite; roughly rectangular piece used for whetting copper tools (chisels?); heavy green stain on one side; 6×8×13 cm.

Shaft G 4140 B: annex shaft for husband; 2.1×2.1 m.; —2.8 m. in rock lined above with drab masonry, 4.2 m., 12 courses; no chamber; type 7 x; completely plundered or unused.

Objects: found in the debris of the street on east:

13-11-36-38: white limestone; frags. of a seated statuette of man:

¹ By an error, the lower half of the piece on Fig. 279 has been given no separate scale. It is drawn at a scale of 1/8 instead of 1/4 like the other objects. The almost identical upper half of the piece has been omitted in Fig. 279 and Pl. 58 d, but a drawing of the complete object will be included in Vol. II.

(36) torso and legs broken; block seat, 22 cm. from front to back, 20 cm. wide, and 21 cm. high; man wears short skirt; with hands on thighs; badly weathered; and 7 small frags. from the upper part of body and arms. Photo. C 5321, B 2098 (*in situ*).

(37) right hand clenched and part of wrists; from same.

(38) 2 frags. from feet and pedestal of 36; colour partly preserved.

13-11-39: white limestone; head of statuette; full wig; woman's head. Photo. C 5331-2.

13-11-56: RP; bowl stand with triangular holes in sides; top broken off; type E-XXII a; h. 75 cm.

13-11-57: special ware: oil-jar of type B-LIV; base frag. certainly thrown out from shaft A; d. base, 8.6 cm.

The frags. of statuettes and the bowl stand were on the debris of decay of the chapel; covered by debris thrown out of shaft and finally by drift sand.

G 4240: row 4, line 2:

See Map 6 and Figs. 110 (chapel), 281 (shaft), 282 (objects).

See Pls. 47 a-d, 48 a-c, 53 a, 56 a, 57 b, 58 c, g, 59 d.

Owner: Prince Sneferuw-seneb, *sr nswt n ht-f, sm, hrp indwt, q-mr Dp, rj p nb, smr.*

Excavated: November 4th to 18th, 1913.

Mastaba: core type IV i; 21×8.35 m.; area, 175.3 sq. m.; prop. $1/2.51$; h. 4.7 m.

Cased with white limestone, x-masonry; 24.9×11.8 m.; area, 293.82 sq. m.; prop. $1/2.11$; casing completely built, but its smooth dressing was not finished.

Chapel: exterior chapel of type (2 b) of white limestone, bonded with casing; 3.62×1.55 m.; area, 5.61 sq. m.; prop. $1/2.33$; the west wall was formed by the casing, but the slope of the casing had been dressed vertically; in this vertical wall had been cut a large *ha*-door of traditional form; entered from east by doorway in north end of east wall.

Exterior c.b. chapel: type (1 e); consisting of four rooms (b)-(e):

(b) N-S room around doorway to (a); 4.4×1.5 m.; area, 6.6 sq. m.; entered from (d), by doorway in north end of west wall; doorway to (c), in south wall.

(c) magazine south of east end of (b); 2.88×1.45 m.; area, 4.18 sq. m.; entered from (b), by doorway in north wall.

(d) N-S room west of (b) and north of (a), partly destroyed; 3.5×1.75 m.; area, 6.13 sq. m.; doorway to (b) in south end of east wall; entrance destroyed.

(e) vestibule room, nearly destroyed, c. 1.9×1.9 m.; area, 3.61 sq. m.; doorways not preserved.

Total area, (b)-(c), 20.52 sq. m.

Total area, (a)-(e), 26.13 sq. m.

Decoration of the Offering-room:

The only parts of the white chapel which were decorated were the tablet and crossbar of the *ha*-door; in 1912

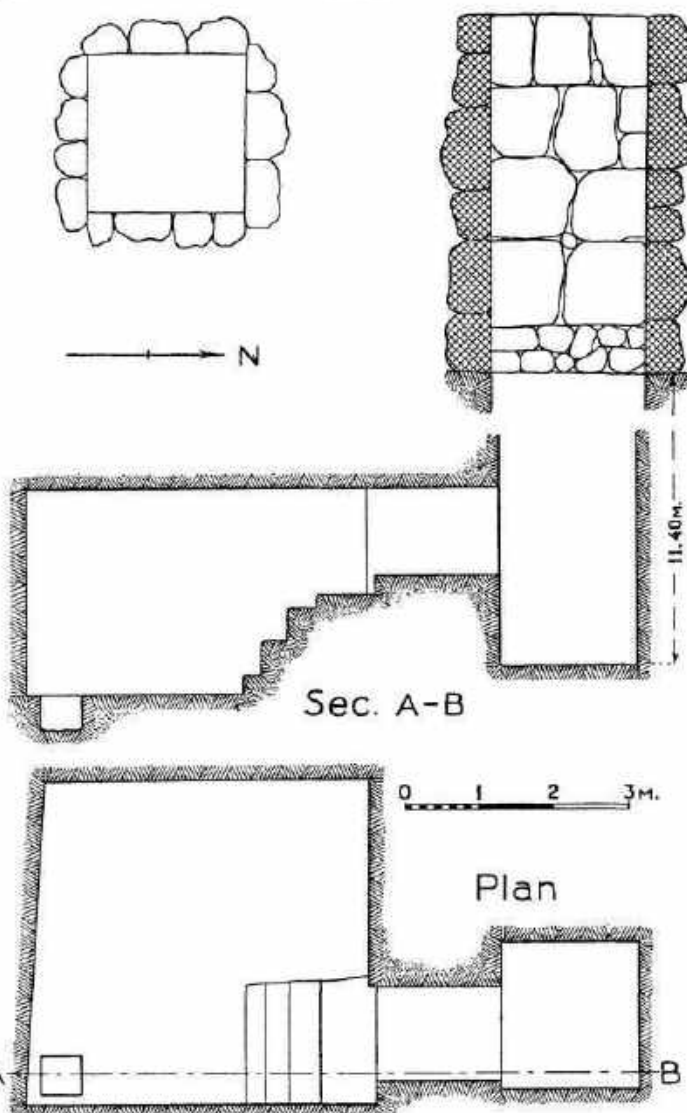


Fig. 281. G 4240 A

a band of thieves who had previously marked down the chapel broke out the tablet but were surprised by our guards on duty in the northern strip and ran away leaving the tablet on the ground. It was then removed to the Cairo Museum.

Pl. 57 b: man seated at table of bread facing to right; in traditional attitude, full wig and long robe; ideographic list under table only on right, ointment, linen, bread, beer; over table three horizontal lines of list of offerings, extending to right of table; down right side of table continued by six more horizontal lines; separated by horizontal lines in relief; across the top in a horizontal line of titles with signs facing to right, *šm, hrp šndwt, cd-mr Dp, rj p nb, šmr, sš nšwt n ht-f mry-f* and the name below in front of the face, *Šnfrw-šnb*.

Crossbar: titles and name in relief; signs facing to right.

Shaft G 4240 A: sole shaft; 2.10 × 2.10 m.; —11.4 m. in rock; lined above with massive masonry, 4.7 m.; 7 courses.

Chamber: type 2 br (stair), not lined; on south; 4.6 × 4.35 m. and 2.67 m. high; area, 20.01 sq. m.; capacity, 53.42 cu. m.

Passage: horizontal; 1.1 × 1.2 m. and 1.25 m. high; rock-cut stair of 4 steps and 5 rises descending from floor of passage to floor of chamber; 1.95 × 1.55 m. and 2.6 m. high; the lining would have covered the eastern side of the stair.

Coffin: frags. of white limestone coffin of type d.

Canopic pit: in SE corner; 0.6 × 0.7 m. and 0.46 m. deep.

Objects: found in G 4240 A; the shaft had been excavated by Schiaparelli as far as the chamber; we found drift sand from c. 4 m. down to top of doorway and running into chamber; the portcullis slab had been pulled out to north; around it lay nearly a metre of thieves' debris mixed with limestone filling; below that on the north was nearly a metre of original filling of limestone debris; the thieves' debris covered the floor of the chamber, under the drift sand.

13-11-60: white limestone; found in shaft; portrait head (reserve head) of Prince Sneferuw-seneb; Pl. 53 a, Pl. 48 c, bowl *in situ* under which lay the head.

13-11-60 d: white limestone; crescent-shaped frag. broken from the front of the neck of another portrait head (wife?); this frag. appears to fit the front part of a head found in G 5020-annex shaft in August 1935; Reg. No. 35-8-26; h. 22 cm.; from front to back, 18.3 cm.; width, 13.3 cm. Photos. C 13509 (*in situ*), C 13510-13515 (uncleaned), Pl. 56 a.

Alabaster Vessels:

13-11-58: alab.; cyl. jar, type S-I e; h. 10.4 cm.; d. rim, 7.2 cm.; d. min., 4.2 cm.; d. base, 5.6 cm.; tube bored with stump of core roughly dressed. Pl. 58 c, Fig. 282.

13-11-59: alab.; flat-bottomed bowl with internal rim; type S-X b; h. 11.2 cm.; d. mouth, 37.2 cm.; d. max. 39.7 cm.; d. base, 11.6 cm.; irregular scratches left by smoothing process. Pl. 48 c (*in situ*), Pl. 58 c, Fig. 282.

The two vessels were found in thieves' debris in shaft with the reserve head immediately under the bowl.

Flints: found in chamber:

13-11-95: flint, grey; handle of a knife (?); l. 6.5 cm.; w. 4.4 cm. Pl. 58 g (1/1). Fig. 282.

13-11-96: flint, brown; half of a flake; l. 5.8 cm.; w. 2.7 cm. Pl. 58 g (2/1). Fig. 282.

Pottery:

Group A:

Type A-II b: large wine-jars; 5 or more examples:

13-11-85: WSR; incomplete; h. 35+ cm.; d. rim, 10.6 cm.; d. max. 23 cm. Photo. C 5396 (1/2). Fig. 282.

13-11-86: WSR; or KW; incomplete; h. c. 41 cm.; d. rim, 11.4 cm.; d. max. 24.2 cm. Photo. C 5394 (1/1).

13-11-87: WSR; incomplete; h. c. 40 cm.; d. rim, 10.2 cm.; d. max. 24 cm. Photo. C 5395 (2/1-2). Fig. 282.

13-11-89: WSR, (pink); upper part only; h. c. 21.2+ (over 40 cm.); d. rim, 9.4 cm.; d. max. 24.2 cm. Photo. C 5396 (1/1).

13-11-94: WSR; frags. of several jars; (a) d. rim, 8.4 cm.

Type A-LI: bag-shaped pot: 1 example:

13-11-84: RBrW; smooth; h. 6.6 cm.; d. rim, 5.0 cm.; d. max. 8.0 cm. Fig. 282.

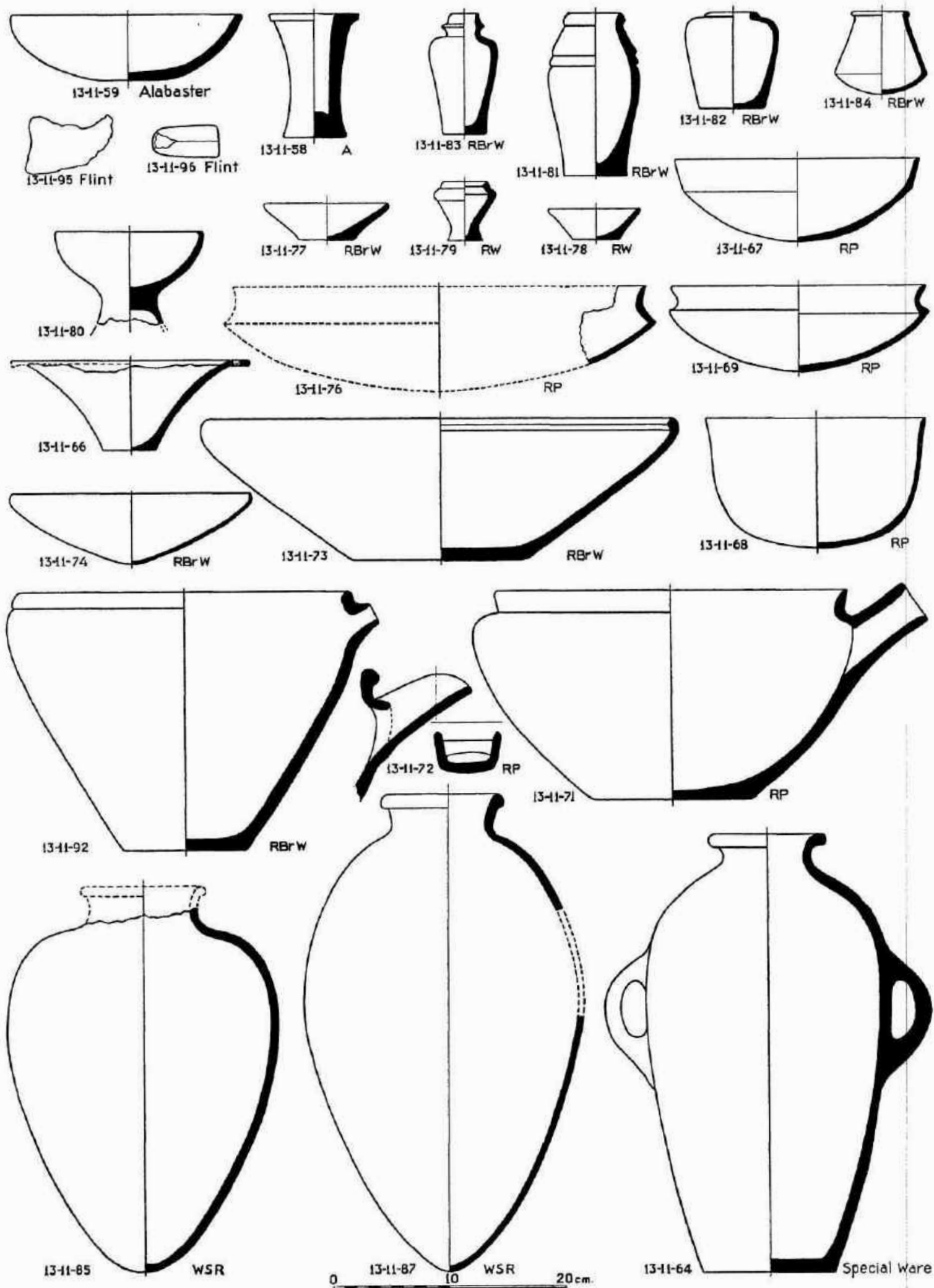


Fig. 282. G 4240

Group B: flat-bottomed jars:

Type B-LIV: two-handled oil jars; 2 examples:

13-11-64, 65: special ware; 1 nearly complete jar and frags. of another; h. 43 cm.; d. rim, 9.5 cm.; d. neck, 6.4 cm.; d. max. 25.6 cm.; d. base, 11 cm.; w. with handles, 27 cm. Photo. C 5384. Fig. 282.

Type B-LV a: neckless shoulder jar; 3 or more broken examples:

13-11-82: RBrW; smooth; 3 or more examples; h. 8.0 cm.; d. rim, 4.4 cm.; d. max. 8.0 cm.; d. base, 5.6 cm. Photo. C 5394 (1/4). Fig. 282.

Type B-LV b: neckless shoulder jar, model with splay foot; 2+ examples:

13-11-79: RW; 1 complete and frags. of 1 or 2 others of varying forms; h. 5.0 cm.; d. max. 5.4 cm.; d. base, 3.0 cm. Photo. C 5394 (1/2-3). Fig. 282.

Type B-LVI a: collar jar; 1 example:

13-11-83: RBrW; smooth; h. 10.2 cm.; d. rim, 2.6 cm.; d. collar, 4.0 cm.; d. max. 6.2 cm.; d. base, 4.0 cm. Photo. C 5387 (1/3). Fig. 282.

Type B-LVIII a: belted barrel-shaped jar; 2+ examples:

13-11-81: BrW; wet smoothed; h. 13.9 cm.; d. rim, 5.0 cm.; d. max. 7.8 cm.; d. base, 5.4 cm. Photo C 5387 (1/4); frags. of several others. Fig. 282.

Group C: round-bottomed basins and bowls:

Type C-XXX b (1): bent-sided bowl; 1 example:

13-11-67: RP; h. 7 cm.; d. rim, 21 cm.; d. bend line, 19.6 cm.; h. top, 2.8 cm. Photo. C 5382 (1/1). Fig. 282.

Type C-XXXII c: bowl with recurved rim and round bottom; 2 examples:

13-11-69: RP; h. 7 cm.; d. rim, 21 cm.; d. body, 22.2 cm. Photo. C 5383 (1/1). Fig. 282.

13-11-76: RP; incomplete; h. 8.8 cm.; d. rim, 35.2 cm.; d. body, 37.2 cm. Fig. 282.

Type C-LXI f: deep bowl with plain rim; 1 example:

13-11-68: RP; incomplete; h. 11 cm.; d. rim, 19.2 cm. Photo. C 5383 (2/1). Fig. 282.

Type C-LXII a: bowl with contracted mouth and plain rim; 2 examples:

13-11-74, 75: RBrW; 1 complete and 1 incomplete example; (a) h. 12.0 cm.; d. top, 41.6 cm.; d. max. 42 cm. Fig. 282.

Group D: flat-bottomed basins and bowls:

Type D-XXXV a: basin with short tubular spout; 1 example:

13-11-92: RBrW; smooth; incomplete; h. 22 cm.; d. rim, 29 cm.; d. max. 30.6 cm.; d. base, 10.6 cm.; l. with spout, 31.6 cm. Photo. C 5401. Fig. 282.

Type D-XXXV b: basin with half-open spout (from shoulder); 1 example:

13-11-72: RP; incomplete; h. c. 20+ cm.; d. c. 46 cm.; width of spout, 5.4 cm. Pl. 59 d (1/1). Fig. 282.

Type D-XXXVI a: bowl, recurved rim, long tubular spout; 1 example:

13-11-71: RP; incomplete; h. 17.8 cm.; d. rim, 30.2 cm.; d. body, 33.6 cm.; d. base, 13.4 cm.; width with spout, 38.4 cm. Pl. 59 d. (2/1). Fig. 282.

Type D-XXXVI b: same with high recurved rim; 1 example:

13-11-70: RP; incomplete; h. c. 19.6 cm.; d. max. 36 cm. Photo. C 5380 (2/1).

Type D-XXXIX a: flaring bowl with concave sides; 1 example:

13-11-66: RP; incomplete; h. 7.8 cm.; d. rim, 20.6 cm.; d. base, 4.6 cm. Pl. 59 d (1/2). Fig. 282.

Type D-LXXI: large tub; frags. of at least 1 example:

13-11-93: mud ware; frags. showing flat bottom and band rim; d. over 50 cm.

Type D-LXXII e: contracted mouth and internal rim; 1 example:

13-11-73: RBrW; smooth; h. 12 cm.; d. top, 40 cm.; d. int. rim, 39.2 cm.; d. max. 40.8 cm.; d. base, 15.2 cm. Photo. C 5386 (2/1). Fig. 282.

Type D-LXXIX a-m: models; model basins and bowls; many examples:

13-11-77: RBrW; over 10 examples and frags.; d. ranging from 9.0 to 12.0 cm.; (a) h. 3.0 cm.; d. rim, 11.0 cm.; d. base, 4.8 cm. Photo. C 5395 (1/3). Fig. 282.

13-11-78: RW; small models; frags. of 3 or more; h. 2.6 cm.; d. rim, 8.0 cm.; d. base, 4.4 cm.; others with diam. 7-8 cm. Fig. 282.

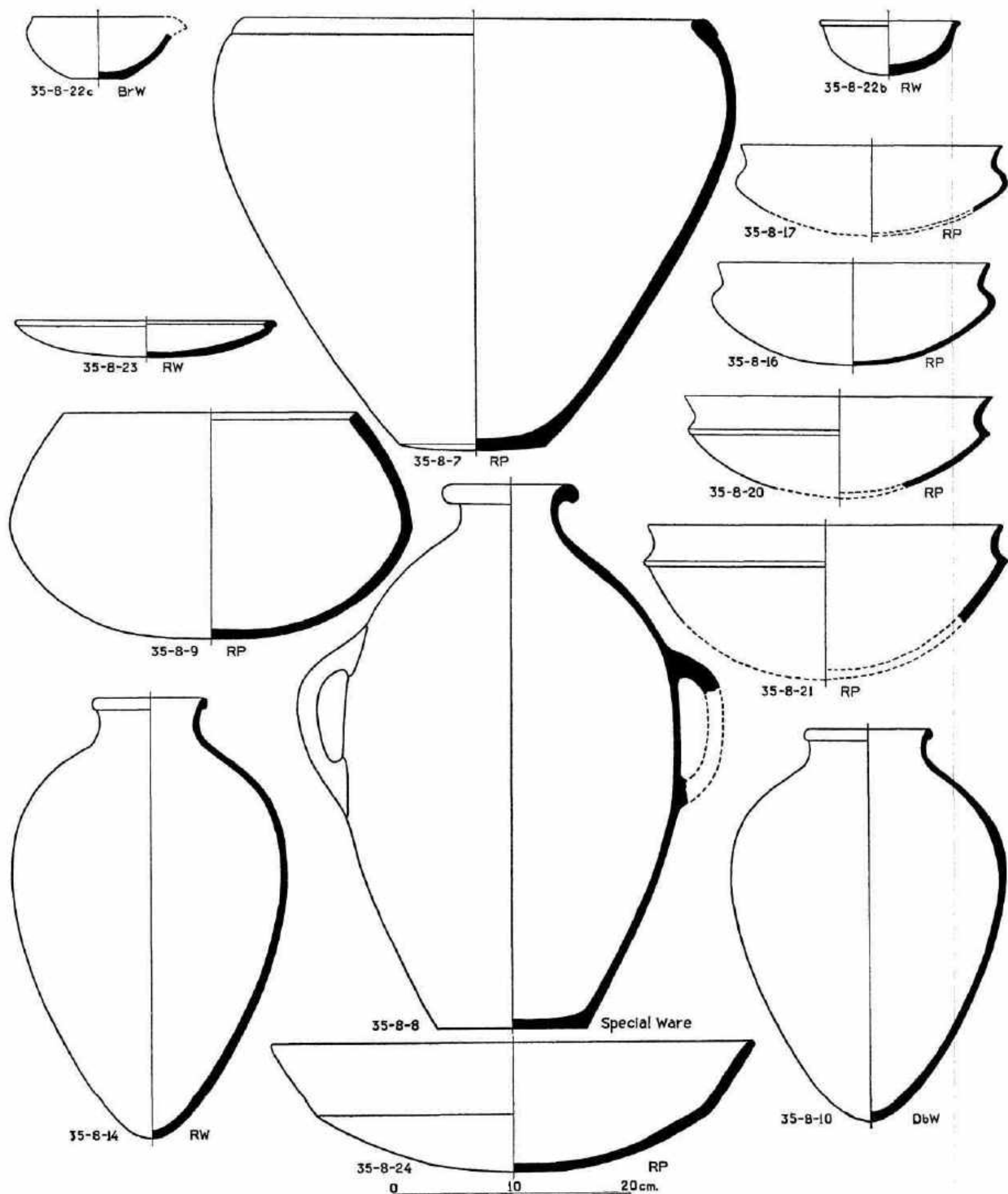


Fig. 283. G 5020 (with G 4240)

Group E: bowl table and bowl stands:

Type E-XXI a-m: bowl table; 1 example:

13-11-80: RBrW; smooth; stand broken off; h. 8.6 cm.; d. rim, 12.6 cm.; d. top of stand, 4.4 cm. Photo. C 5395 (1/2). Fig. 282.

SUMMARY: examples of pottery types:

Group A: type A-II b, 5+; A-LI, 1; total 6+ examples.

Group B: type B-LIV, 2; LV, 5+; LVI, 1; LVIII, 2+; total 10+ examples.

Group C: type C-XXX, 1; XXXII, 2; LXI, 1; LXII, 2; total 6 examples.

Group D: type D-XXXV, 2; XXXVI, 2; XXXIX, 1; LXXI, 1; LXXII, 1; LXXIX, 13+; total 20+ vessels.

Group E: type E-XXI a, 1 example; total 1 example (table).

Total number of vessels of identified types, 43 vessels: in 17 types.

See also the pottery found in G 5020-annex-shaft.

Miscellaneous Objects:

13-11-60 b: plaster; from inside large basin; in shaft.

13-11-60 c: white limestone; lid of coffin; 3 frags. in shaft.

13-11-60 f: sealing clay (mud); 20+ frags. of box sealing with string marks; without seal impression: in shaft.

In G 5020-annex was found the reserve head which I identify as the wife of Prince Sneferuw-seneb. In the same shaft we found a mass of weathered pottery of the same types as those found in row 4, and these certainly were intrusive in G 5020-annex-shaft. They probably came from row 4 and perhaps from G 4240. For the sake of comparison I list these vessels here (Fig. 283):

Pottery: G 5020-annex-shaft:

Group A: round-bottomed jars:

Type A-II b: large wine-jars; 5 examples:

35-8-10: DbW; h. 33.2 cm.; d. rim, 10.8 cm.; d. max. 23.0 cm. Photo. B 8595 (2/2). Fig. 283.

35-8-12: DbW; h. 34.4 cm.; d. rim, 9.0 cm.; d. max. 20 cm. Photo B 8595 (2/1).

35-8-13: DbW; h. 34 cm.; d. rim, 11 cm.; d. max. 23 cm. Photo. B 8595 (2/3).

35-8-14: RW; h. 37.2 cm.; d. rim, 9.6 cm.; d. max. 23 cm. Photo. C 13651 (2). Fig. 283.

35-8-15: RW; h. 34 cm.; d. rim, 9.8 cm.; d. max. 22.4 cm. Photo. C 13651 (1).

Type A-LI c: bag-shaped pots or jars: 2 examples: without ledge rim:

35-8-9: RP; 2 examples incomplete; (a) h. 19 cm.; d. rim, 24.8 cm.; d. max. 34 cm. Photo. B 8596 (1/1, 2). Fig. 283.

Group B: flat-bottomed jars:

Type B-LIV: two-handled oil jars; 2 examples:

35-8-8: special ware; incomplete; h. 46 cm.; d. rim, 11.4 cm.; d. neck, 8.0 cm.; d. body, 28.2 cm.; d. base, 12.4 cm.; w. with handles, c. 36 cm. Photo. B 8594 (1). Fig. 283.

35-8-11: special ware; incomplete; h. 38.2 cm.; d. rim, 8.4 cm.; d. neck, 6.0 cm.; d. body, 21.4 cm.; d. base, 10.8 cm.; w. with handles, 28.8 cm. Photo. B 8594 (2).

Group C: round-bottomed basins and bowls:

Type C-XXVII: shallow dish with internal moulding; 1 example:

35-8-23: RW; h. 3.0 cm.; d. rim, 22 cm.; d. body, 21.4 cm. Fig. 283.

Type C-XXX a:

35-8-22 b: bent-sided bowl with roll rim. Fig. 283.

Type C-XXX b (1): bent-sided bowl; 1 example:

35-8-24: RP; nearly complete; h. 10.8 cm.; d. rim, 40.6 cm.; d. bendline, 33.2 cm.; h. top, 6 cm. Photo. B 8595 (1/1). Fig. 283.

Type C-XXXII b: with high recurved rim; 6 examples and other frags.:

35-8-16: RP; incomplete; h. 5.8+ cm.; d. c. 21.4 cm. Photo. B 7596 (3/1). Fig. 283.

35-8-17: RP; incomplete; h. 5.8+ cm.; d. rim, 22 cm. Photo. B 8596 (2/3). Fig. 283.

35-8-18: RP; incomplete; h. 5.4+ cm.; d. rim, c. 24 cm. Photo B 8596 (2/1).

35-8-19: RP; incomplete; h. 7.0 cm.; d. rim, 25.4 cm. Photo. B 8596 (2/2).

35-8-20: RP; incomplete; h. 8.5 cm.; d. rim, 26 cm. 8596 Photo. B (3/2). Fig. 283.

35-8-21: RP; incomplete; h. 8.2+ cm.; d. rim, 30 cm. Photo. B 8596 (3/3). Fig. 283.

35-8-22: RP; rim frags. of 2 or 3 more bowls.

Group D: flat-bottomed basins and bowls:

Type D-XXXV a:

35-8-7: RP; spout missing; incomplete; h. 36.4 cm.; d. rim, 40.6 cm.; d. max. 43.6 cm.; d. base, 12.4 cm. Photo. C 13652. Fig. 283.

Type D-LXXII c (?)

35-8-22 c: BrW; bowl with open spout (?). Fig. 283.

SUMMARY of vessels of identified types from G 5020-annex-shaft:

Group A: type II b, 5; LI c, 2; total 7 examples.

Group B: type LIV, 2; total 2 examples.

Group C: type XXVII, 1; XXX, 2; XXXII, 6+; total 9+ examples.

Group D: type XXXV, 1; LXII, 1; total 2 examples.

Sum Total of vessels of identified types, 19+ vessels in 8 types.

G 4340: row 4, line 3:

See Map 6 and Figs. 284 (shaft), 285 (objects).

See Pls. 48 d-f; 49 a, b; 53 b; 58 a; 59 a, c, g.

Owner: no name preserved; reserve head shows a face different from Sneferuw-seneb, but similar to heads found by Junker.

Excavated: October 15th-22nd, 1913.

Mastaba: core type IV-i; 22.4 × 9.75 m.; area, 218.4 sq. m.; prop. 1/2.29; h. 5.0 cm.; emplacement for slab-stela.

Casing of white limestone begun, but left unfinished or destroyed; blocks in place on north, south, and west.

Chapel: exterior white limestone chapel of type (2 b), of which only a few stones remain in place; probably destroyed for its stone whether finished or unfinished; indications of doorway from east in north end of east wall; against the north end of the stone chapel and against the east face of the core is built G 4341.

Exterior c.b. chapel; on east of stone chapel remains of c.b. wall; a c.b. doorway in north wall of this c.b. structure gives access to the open corridor between G 4341 and G 4440.

Shaft G 4340 A: 1.98 × 1.98 m.; -9.2 m. in rock; lined above with massive masonry, 5.0 m.; 6 courses.

Chamber: type 2 cr (ramp); lined but not paved; on south; lined chamber, 3.3 × 3.3 m. and 2.64 m. high; area, 10.89 sq. m.; capacity, 28.75 cu. m.; rock chamber, 4.0 × 4.05 m. and 2.64 m. high; area, 16.2 sq. m.; capacity, 42.82 cu. m.

Passage: horizontal passage; 1.17 × 1.2 m. and 1.22 m. high; ramp descending from floor of passage to floor of chamber, 1.2 × 1.09 m. and 1.4 m. high.

Blocking: interior white stone masonry set in plaster, broken through upper part; with portcullis slab, leaning to north, 1.9 m. high, 1.4 m. wide, and 0.28 m. thick; type I b (1).

No remains of coffin.

No canopic pit.

Burial: headless mummy found in the SE corner; probably extended burial; with limbs wrapped separately with coarse linen covered with fine linen.

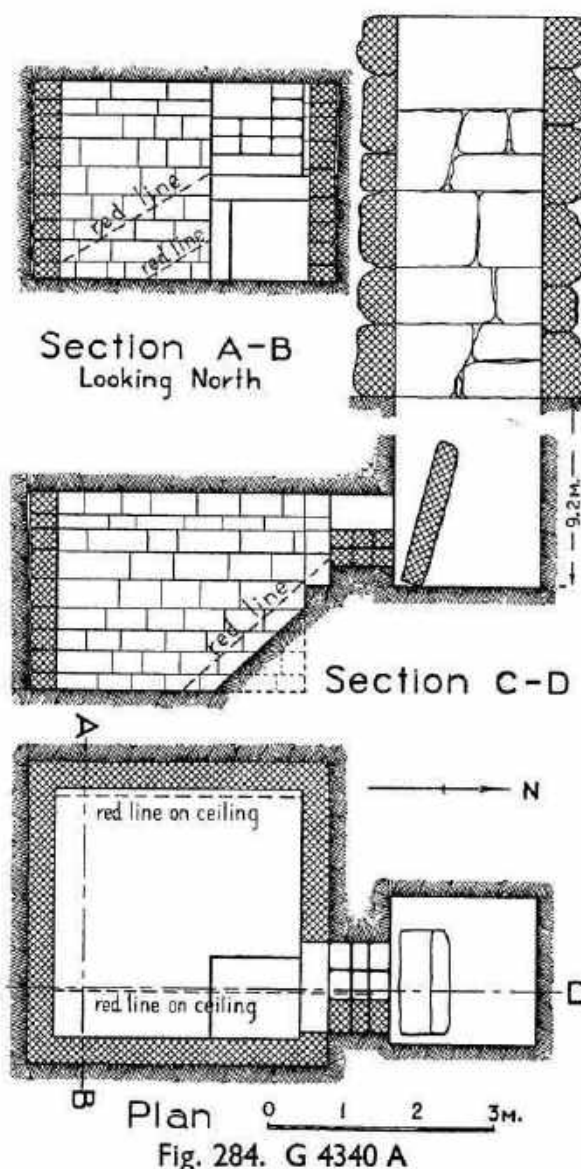


Fig. 284. G 4340 A

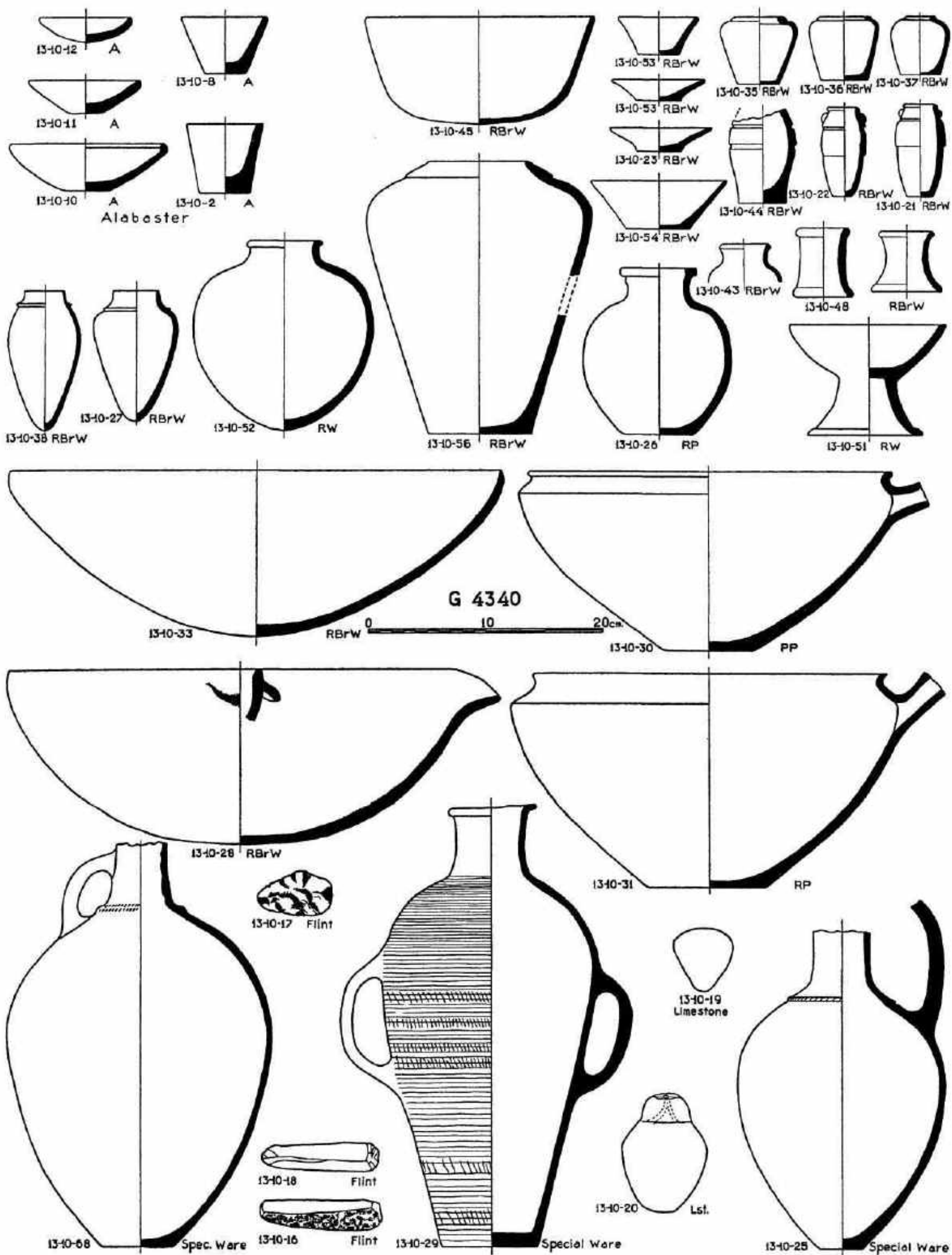


Fig. 285

Objects: found in thieves' debris, in bottom of shaft:

13-10-69: white limestone portrait head (reserve-head); ears missing, but set on with pegs. Photo. C 5286-5296.

Pls. 48 e, 53 b.

13-10-16 to 18: flint; 3 flakes; 2 rounded flakes and 1 irregular flake:

(18) length, 10.1 cm.; width, 2.3 cm.; thickness 0.8 cm. Photo. B 2094 (1/4). Fig. 285.

(17) Irregular; 6.5 × 3.8 cm.; thickness 0.8 cm. Photo. B 2094 (1/2). Fig. 285.

(16) length 10.4 cm.; w. 2.6 cm.; thickness 1.0 cm. Photo. B 2094 (1/3). Fig. 285.

13-10-19: white limestone; lower part of a conical implement (?); perhaps a plummet; h. 5.5+ cm.; convex base, 4.8 × 4.3 cm. Photo. B 2094 (2/2). Fig. 285.

13-10-24: sealing clay (mud); box sealing, with impression of a thumb but not of a seal; 7.1 × 5.0 cm. and 3.5 m. high. Photo. B 2094 (1/1).

13-10-34: hard dark stone (granite?); flake split off from a large hammer head; 11 × 8.5 cm. and 3 cm. thick. Photo. B 2094 (2/1).

Potsherds listed with those in the chamber:

Objects: found in thieves' debris in chamber:

Alabaster vessels and model vessels:

Type S-IX b (1): model, round-bottomed bowl; 4 examples:

13-10-12 to 15: 4 examples; (a) h. 2.0 cm. × 8.0 cm. (Photo. C 5299 (1/1)); (b) 2.1 × 7.8 cm. (Photo. C 5299 (2/1));

(c) 5.0 × 15 cm. (frags.; Photo. B 2088 (1/1)); (d) 1.9 × 8.6 cm. (Photo. C 5299 (2/2)). Fig. 285.

Type S-X a (1): flat-bottomed with plain rim; 2 examples:

13-10-10: frags.; h. 4 cm.; d. rim, 13.6 cm.; d. base, 4 cm.; with slightly convex sides. Photo. B 2088 (1/2). Fig. 285.

13-10-11: h. 2.7 cm.; d. rim, 10 cm.; d. base, 2.8 cm.; with straight spreading side. Photo. C 5299 (1/2). Fig. 285.

Type S-X a (2): flat-bottomed basins, deep forms; plain rim; 8 examples:

13-10-2: h. 6 cm.; d. top, 6.7 cm.; d. base, 4.3 cm. Pl. 58 a (1/3). Fig. 285.

13-10-3: h. 5.4 cm.; d. top, 6.3 cm.; d. base, 4.1 cm. Pl. 58 a (1/2).

13-10-4: h. 5.2 cm.; d. top, 6.8 cm.; d. base, 5.6 cm. Pl. 58 a (1/1).

13-10-5: h. 5.0 cm.; d. top, 7.0 cm.; d. base, 4.0 cm. Pl. 58 a (1/4).

13-10-6: h. 5.0 cm.; d. top, 6.5 cm.; d. base, 3.5 cm. Pl. 58 a (2/3).

13-10-7: h. 5.3 cm.; d. top, 4.6 cm.; d. base, 3.7 cm. Pl. 58 a (2/2).

13-10-8: h. 4.9 cm.; d. top, 7.4 cm.; d. base, 3.5 cm. Pl. 58 a (2/1). Fig. 285.

13-10-9: h. 4.6 cm.; d. top, 7.3 cm.; d. base, 3.8 cm. Pl. 58 a (2/4).

Pottery: vessels and models:

Group A: round-bottomed jars:

Type A-II b: large wine-jars; fragments of 1 or more examples:

13-10-67 b: DbW (KW); frags. of large jar, with thickness of 7-8 mm.

Type A-IV: traditional offering-jars; frags. only:

13-10-67 c: coarse RW; frags.

Type A-V b: medium jar with short neck and roll rim; 1 example:

13-10-52: RW, red wash; h. 15.8 cm.; d. rim, 6.0 cm.; d. neck, 6 cm.; d. body, 14.6 cm. Photo. B 2092 (1/3).

Fig. 285.

Type A-LVI b-m: collar jar with tapering base; 3 examples:

13-10-27: RBrW; pebble smoothed; h. 11 cm.; d. rim, 4.2 cm.; d. collar, 6.0 cm.; d. body, 7.0 cm. Photo. C 5308 (3/2). Fig. 285.

13-10-38: RBrW; smooth; h. 11.8 cm.; d. rim, 3.4 cm.; d. collar, 4.8 cm.; d. body, 6.2 cm. Photo. C 5308 (3/1). Fig. 285.

13-10-41: RBrW; smooth; frag. of base; d. body, 9.0 cm. Photo. C 5308 (3/3).

Group B: flat-bottomed jars.

Type B-XVII c: squat shoulder jar; 1 example:

13-10-26: RP; h. 12.5 cm.; d. max. 12.5 cm.; d. base, 6.6 cm. Fig. 285.

Type B-LIII: one-handled jug; flat bottom; 2 examples:

13-10-25: special ware, cream slip, pebble burnish; mouth and top of handle missing; raised cord around base of neck; h. 25.5 × (27?) cm.; d. neck, 3.6 cm.; d. body, 15.9 cm.; d. base, 3.6 cm. Photo. B 2092 (2/2). Fig. 285.

13-10-68: special ware, cream slip, burnished; mouth missing; cord ridge around base of neck; h. 34+ cm.; d. neck, 7.0 cm.; d. body, 22.4 cm.; d. base, 7.0 cm. Photo. B 2092 (1/1-2). Fig. 285.

Type B-LIV: two-handled oil jars; 1 example:

13-10-29: special ware, cream slip; h. 37.5 cm.; d. rim, 7.4 cm.; d. neck, 6.0 cm.; d. body, 18 cm.; d. base, 8.5 cm.; w. with handles, 24.8 cm. Photo. B 2092 (2/1). Fig. 285.

Type B-LV a: neckless shoulder-jar; 8 examples:

13-10-35 to 37, 39, 40, 42, 47, 56: RBrW, pebble smoothed; 8 examples (5 complete).

	h.	d. rim.	d. max.	d. base	Photo.
(35)	5.6	4.8	6.5	3.6	C 5308 (2/3). Fig. 285.
(36)	5.5	5.0	6.0	4.0	C 5308 (2/4). Fig. 285.
(37)	5.7	3.6	5.0	3.5	C 5308 (3/1). Fig. 285.
(39)	5.1	4.0	5.9	3.5	C 5308 (1/2).
(40) frags.	..	..	6.9	..	C 5308 (1/3).
(42) frags.	..	..	..	3.4	C 5308 (1/2).
(47) frags.	..	..	..	..	..
(56)	23.2	8.4	19.2	9.0	Incomplete. Fig. 285.

One large practical jar and seven models.

Type B-LVIII: model, barrel jar with cord belt around middle: 3 examples of different forms:

13-10-21: RBrW; with two unperforated handles on neck; h. 8.1 cm.; d. rim, 3.0 cm.; d. max. 4.0 cm.; d. base, 2.0 cm. Photo. C 5308 (2/1). Fig. 285.

13-10-22: RBrW; simplification of representation of cord net; h. 7.8 cm.; d. rim, 3.0 cm.; d. max. 3.8 cm.; d. base, 2.4 cm. Photo. C 5308 (2/2). Fig. 285.

13-10-44: RBrW; cord belt marked with two horizontal grooves; rim broken off; h. 8.2+ (9.0) cm.; d. max. 5.5 cm.; d. base, 4.1 cm. Photo. C 5308 (3/4). Fig. 285.

Group C: round-bottomed basins and bowls:

Type C-LXI d: shallow bowl with lip spout and two ledge handles: (Hetep-heres type); 1 example:

13-10-28: RBrW, rough surface; h. 14.8 cm.; d. rim, 29.6 cm.; w. with spout handles, 40 cm. Pl. 59 g (1/1). Fig. 285.

Type C-LXI e: deep, flaring bowl with plain rim: 2 examples:

13-10-33 and 55: RBrW, smooth; 2 examples of nearly the same size; h. 14.2 cm.; d. rim, 42.0 cm. Pl. 59 g (2/1). Fig. 285.

Type C-LXI f: deep narrow bowl with plain rim; 2 examples:

13-10-45 and 46: RBrW, smooth; (a) h. 8.8 cm.; d. rim, 19.4 cm. Photo. C 5307 (2/2). (b) h. 9.7 cm.; d. rim, 18.6 cm. Pl. 59 g (1/2, 2/2). Fig. 285.

(N.B. The above types C-LXI d, e, f are all Hetep-heres types.)

Group D: flat-bottomed basins and models of same:

Type D-XXXVI b: with recurved rim (high) and tubular spout; 2 examples:

13-10-30: RP; h. 15.4 cm.; d. rim, 30.2 cm.; d. body, 32.8 cm.; d. base, 7.5 cm. Pl. 59 a (3/1). Fig. 285.

13-10-31: RP; h. 18.5 cm.; d. rim, 30 cm.; d. body, 34 cm.; d. base, 10 cm.; w. with spout, 37 cm. Pl. 59 a (2/1). Fig. 285.

Type D-XXXIX a: flaring bowl with prolonged rim; 2 or more examples:

13-10-66: RP; 5 frags. of rim of 2 or more examples.

Type D-LXXIX a: flat-bottomed shallow models of basins; 1 example:

13-10-23: RBrW, smooth; h. 2.1 cm.; d. top, 8.8 cm.; d. base, 4.1 cm. Photo. C 5308 (1/4). Fig. 285.

Type D-LXXIX b: deep basins, models, with straight sides; 66 examples:

13-10-53, 54: RBrW; about 66 examples varying around the size of (a) h. 4.2 cm.; d. top, 11.4 cm.; d. base, 5.3 cm. Pl. 59 c (2/2, 1/1-4, 2/4). Fig. 285.

Group E: bowl tables and bowl stands:

Type E-XXI a: bowl table; 4 examples of models; Pl. 59 c (2/3, 3/1-3); Fig. 285.

13-10-51: RW, wet smoothed; 4 examples:

- (a) h. 8.7 cm.; d. bowl, 13.7 cm.; d. base, c. 10 cm.
- (b) h. 9.7 cm.; d. bowl, 14 cm.; d. base, c. 10 cm.
- (c) h. 9.9 cm.; d. bowl, 12.4 cm.; d. base, 9 cm.
- (d) incomplete.

Type E-XXIV a: tall ring-stand; at least 8 examples:

13-10-48: RBrW; h. 5.2-5.4 cm.; d. base, 5.9-6.4 cm.; d. rim top, 5.1-5.3 cm.; 4 examples. Pl. 59 c (2/1). Fig. 285.

13-10-49: RBrW; 2 examples; h. 6 cm. Pl. 59 c (2/5).

13-10-50: RBrW; similar frags. d. max. 5.8-6.0 cm.; 2 examples.

Group F: traditional ceremonial pots and trays:

Type F-XXV: bread pot ('flower pot'); frags. only.

13-10-67: mud ware; frags. of 'flower pot'.

Pottery vessels of unidentified type; incomplete jars:

13-10-32: RP; upper part of a large jar with neck and roll rim; type A VI or B XVII; h. 23.2+ cm.; d. rim, 9 cm.; d. neck, 6.4 cm.; d. max. 17 cm. Pl. 59 a (2/2).

13-10-43: BrW, wet smoothed; upper part of small jar; type A-VI or B XVII; h. 5+ cm.; d. rim, 4.3 cm.; d. neck, 3.8 cm.; d. max. 6.3 cm. Photo. C 5308 (1/5). Fig. 285.

13-10-57 to 65, 67 a: small frags. of vessels including RP bowls which could not be fitted together or definitely identified; many of these belonged to types listed above.

Unique object: found in chamber:

13-10-20: white limestone; a plummet-bob (?); not of any form of model vessel; with string hole pierced through top, ovoid form with rounded bottom and flat top; h. 10 cm.; d. top, 2 cm.; d. max. 6 cm. Photo. B 2094 (2/2). Fig. 285.

POTTERY: SUMMARY of identified types:

Group A: type A II b, 1+; IV, 1; V, 1; LVI, 3; total 6+ examples.

Group B: type XVII, 1; LIII, 2; LIV, 1; LV, 8; LVIII, 3; total 15 examples.

Group C: type LXI, 5; total 5 round-bottomed bowls.

Group D: type XXXVI, 2; XXXIX, 2+; LXXIX, models 67; total 71+ examples.

Group E: type XXI a, 4 examples; XXIV a, 8+; total 12+ examples.

Group F: type XXV, frags.; total 1.

Sum total of vessels of identified types, 110, of which about 73 were well-formed models: total types, 16.

Later Constructions: against the east face of the mastaba, north of the exterior chapel, stands the mastaba G 4341.

G 4440: row 4, line 4:

See Map 6 and Figs. 37, 286 (shaft), 76 (blocking), 287 (objects).

See Pls. 49 c, 54 a, b, 58 g, 59 b, h.

Excavated: November 20th to December 3rd, 1913.

Owner: name not found; by portrait head, undoubtedly a brother of Prince Sneferuw-seneb.

Mastaba: core type IV-i; 22.8×9.45 m.; area, 215.46 sq. m.; prop. 1/2.05; h. 5.0 m.

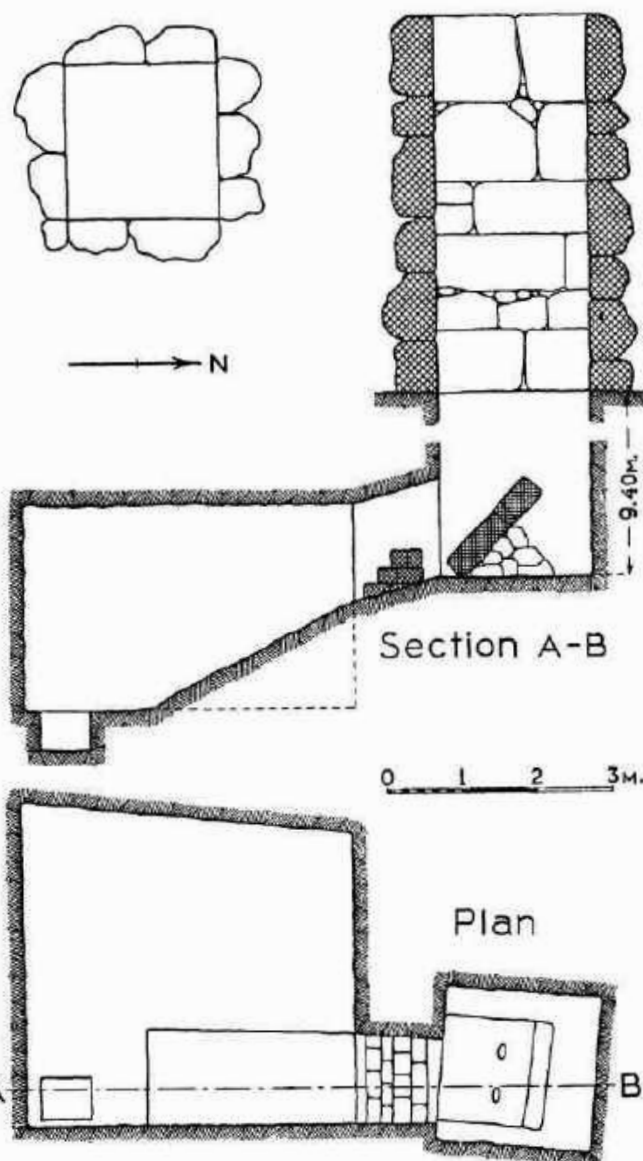


Fig. 286. G 4440 A

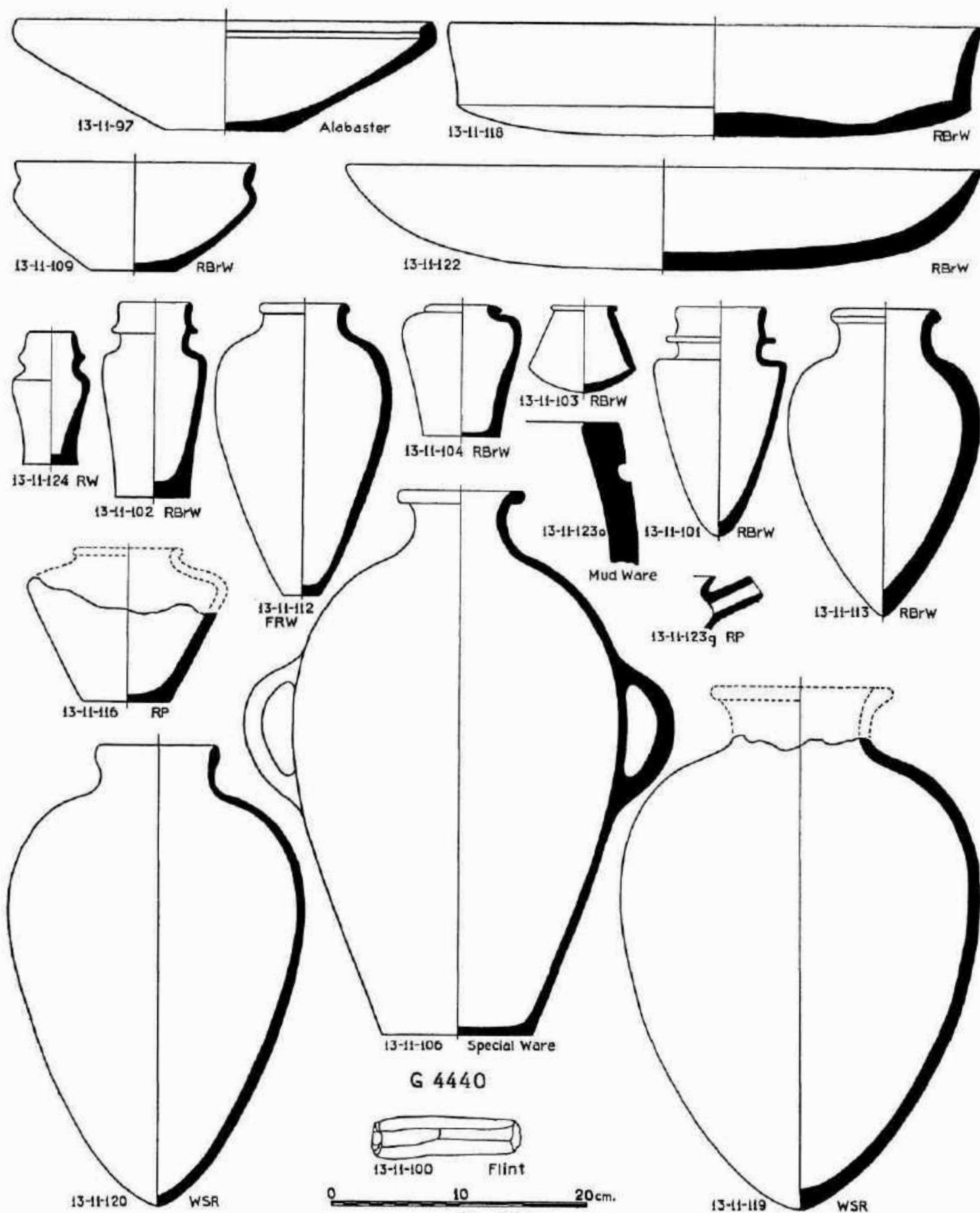


Fig. 287

Cased with white limestone (X-masonry), poorly preserved on west and east; probably destroyed; apparent size of cased mastaba, 24.8×11.45 m.; area, 283.84 sq. m.; prop. 1/2.17:

Chapel: type (2 b) destroyed except for one block in south wall; remains of exterior c.b. chapel of 3 rooms, of which only room (c) could be measured, 2.35×2.65 m.; area, 6.23 sq. m.; room (c) entered from west.

Shaft G 4440 A: sole shaft, original; 2.1×2.1 m.; - 9.4 m. in rock; lined above with massive masonry, 5.0 m.; 6 courses.

Chamber: type 2 brx (ramp); not lined; on south; rock chamber, 4.35×4.05 m. and 2.71 m. high; area, 17.62 sq. m.; capacity, 47.75 cu. m.

Passage: sloping passage with ramp at end inside chamber; passage, 1.14×1.15 m. and 1.25 m. high at right angles to slope; ramp, 2.25×1.25 m. and 1.4 m. high.

Blocking: interior masonry set in plaster and portcullis slab, 1.6 m. high, 1.3 m. wide, and 0.35 m. thick; with two holes through the upper part through the thickness: type I b (1).

Coffin: frags. of white limestone coffin of type d, in shaft and chamber.

Canopic pit in SE corner: 0.65×0.55 m. and 0.5 m. deep.

Objects: found in thieves' debris in bottom of shaft:

13-11-90: white limestone; portrait head ('reserve head'); head of man, originally finished with thin layer of white plaster; life size; found in thieves' debris just below top of leaning portcullis slab with pottery and frags. of coffin. Photos. C 5355-5356 (Pl. 49 c) (*in situ*), C 5358-5362 (Pl. 54 a).

13-11-91: white limestone portrait head ('reserve head') of a woman (negress); found about 20 cm. NW of 90 with potsherds from chamber wedged between the two. Photos. C 5363-5367 (Pl. 54 b), C 5355-5356 (Pl. 49 c), (*in situ*).

13-11-100: flint; round-ended razor; length, 10.7 cm.; d. 3.0 cm. Pl. 58 g (1/2). Fig. 287.

The pottery from the shaft is included with that from the chamber.

Objects: found in thieves' debris thrown out from shaft in street east of shaft.

Alabaster Bowls and Table: practical size:

Type S-X c: clear alab.; flat-bottomed bowl with internal rim; 2 examples:

13-11-97: clear alab.; incomplete; h. 8.6 cm.; d. rim, inside, 30.4 cm.; d. max. 33 cm.; d. base, 9 cm. Fig. 287.

13-11-98: alab.; incomplete, thinner than 97 and not so well smoothed; d. c. 30 cm.

Type S-XII b: flat-topped circular table; 1 example:

13-11-99: alab.; clear frag. of top; d. 47 cm.

Potsherds in this dump, listed with those from chamber.

Pottery; found in thieves' debris in dump, in shaft, and in chamber:

Group A: jars with rounded or pointed base:

Type A II-b: large wine-jars; 4 examples:

13-11-117: DbW (KW); base, blade dressed; h. 34+ cm.; d. rim, c. 9 cm.; d. neck, 6.4 cm.; d. body, 19 cm.

13-11-119: WSR; incomplete; h. 40+ cm.; d. rim, c. 14 cm.; d. neck, 10.8 cm.; d. max. 28 cm. Fig. 287.

13-11-120: WSR; incomplete; h. 36 cm.; d. rim, 9.5 cm.; d. neck, 9 cm.; d. max. 23 cm. Fig. 287.

13-11-121: WSR; incomplete; h. 35.5 cm.; d. rim, 9.8 cm.; d. neck, 9 cm.; d. max. 23.5 cm.

Type A VI b: medium and small jars with neck and roll rim; 2 examples:

13-11-111: RP; incomplete; h. 24 cm.; d. rim, 6.6 cm.; d. neck, 5.6 cm.; d. body, 14.6 cm. Photo. C 5414 (1/1).

13-11-113: BrW, red wash; incomplete; h. 24 cm.; d. rim, 8.0 cm.; d. neck, 7.2 cm.; d. body, 15 cm. Photo. C 5411 (1/1). Fig. 287.

Type A LI: bag-shaped jar or pot; 2 examples:

13-11-103: FRW; h. 6.8 cm.; d. rim, 5.2 cm.; d. max. 8.6 cm. Photo. C 5412 (1/1), Pl. 59 h (1/3). Fig. 287.

13-11-123 i: RBrW, wet smoothed; frags. only.

Type A LVI: collar jar with pointed base; 1 example:

13-11-101: RBrW, wet smoothed; h. 17.8 cm.; d. top, 6.8 cm.; d. collar, 8.4 cm.; d. body, 10.4 cm. Photos. C 5412 (2/1), Pl. 59 h (1/1). Fig. 287.

Group B: flat-bottomed jars:

Type B-XVII a: jar with neck and roll rim; 1 example:

13-11-112: FRW, red wash; incomplete; h. 22.8 cm.; d. rim, 7.0 cm.; d. neck, 6.8 cm.; d. body, 14.0 cm.; d. base, 2.8 cm. Photo. C 5414 (1/2). Fig. 287.

Type B XIX b: shoulder jar with short neck:

13-11-114, 115, 116: RP; bases of three short-necked shoulder-jars; d. base (114) 7.2 cm.; (115) 7.6 cm.; (116) 7.0 cm. (Fig. 287), and 13-11-123 f, top of jar.

Type B-LIV: two-handled oil jar; 3 examples:

13-11-106: special ware, cream slip; h. 42.6 cm.; d. rim, 9.8 cm.; d. neck, 7.2 cm.; d. body, 25.2 cm.; d. base, 11.8 cm.; w. with handles, 33.8 cm. Pl. 59 b, Fig. 287.

13-11-107: special ware, cream slip; h. 35.0 cm.; d. rim, 10 cm.; d. neck, 8 cm.; d. body, 22 cm.; d. base, 12 cm.; w. with handles, 28 cm. Photo C 5424 (1/1).

13-11-108: special ware, cream slip; h. 42 cm.; d. rim, 11 cm.; d. neck, 9 cm.; w. with handles, 27 cm. Photo. C 5424 (1/2).

Type B-LV: neckless shoulder jar; 5 examples, small models:

13-11-104: RBrW, wet smoothed; incomplete; h. 10.4 cm.; d. rim, 5.6 cm.; d. shoulder, 9.0 cm.; d. base, 6.0 cm. Photo. C 5412 and Pl. 59 h (1/5), Fig. 287.

13-11-123 j: wet smoothed; frags. incomplete.

Type B-LVI a: collar jar; 4 examples; large well-formed models:

13-11-102: RBrW, wet smoothed; h. 15.3 cm.; d. rim, 6.0 cm.; d. collar, 6.6 cm.; d. body, 8 cm.; d. base, 6 cm. Photos. C 5412 (2/2), Pl. 59 h. (1/2). Fig. 287.

13-11-105: RBrW, smooth; frags. of two jars about same size as 102.

13-11-124: RW, wet smoothed; h. 10.4 cm.; d. rim, 3.8 cm.; d. collar, 5.0 cm.; d. body, 6.0 cm.; d. base, 4.4 cm. Photos. C 5412 (2/2), Pl. 59 h. (1/4). Fig. 287.

Type B-LVIII: barrel jar with cord belt; models; 1 example:

13-11-123 n: RBrW, wet smoothed; frags. only.

Group C: round-bottomed basins and bowls:

Type C-XXXII b (1): recurved rim (high); 1 example:

13-11-123 c: RBrW, smooth; frags. d. about 22 cm.

Type C-LXI a: wide shallow bowl with plain rim; 2 examples:

13-11-122: coarse RBrW, thick walled; 2 examples; h. c. 8 cm.; d. c. 50 cm.; (Hetep-heres form). Photo C 5447 (1/2), C 5448. Fig. 287.

Type C-LXI c: wide shallow bowl with rim flattened on top; 1 example:

13-11-110: RP; incomplete; h. 3.8 cm.; d. 14.6 cm.

Type C-LXI f: deep bowl with rising sides, plain rim; 1 example:

13-11-123 d: RP; incomplete; d. c. 21 cm.

Group D: flat-bottomed basins and bowls:

Type D-XXXV a: large basin with tubular spout; 2 examples:

13-11-123 a and e: RP; frags. of two basins, d. over, 50 cm.

Type D-XXXVI a: recurved rim and tubular spout; 3 examples:

13-11-109: RBrW, red wash; incomplete; h. 8.4 cm.; d. rim, 18.6 cm.; d. body, 19 cm.; d. base, 6.8 cm. Photo. C 5411 (1/2).

13-11-123 g: RP; incomplete; small bowl with d. c. 12 cm. Fig. 287.

13-11-123 h: RBrW, wet smoothed, incomplete; d. c. 35 cm.

Type D-XXXVI b: recurved rim (high), with tubular spout; 1 example:

13-11-123 b: RP; incomplete; d. c. 40 cm.

Type D-LXXI a: large tub; 1 example:

13-11-123 o: mud ware; frags. with band rim; d. c. 50 cm. Fig. 287.

Type D-LXXIV: pan with flat bottom, with upright concave sides; 1 example:

13-11-118: RBrW, wet smoothed; h. 8.7 cm.; h. of rim, 6.4 cm.; d. rim, 41.6 cm.; d. base of rim, 40.0 cm.; d. base, 22.0 cm. Photo. C 5423. Fig. 287.

Type D-LXXIX a: small model basins with straight spreading sides:

13-11-123 l: RBrW; 10 or more; h. 2.4-2.6 cm.; d. 7-8 cm.

Group E: bowl tables, bowl stands, and ring stands:

Type E-XXI a: RBrW, wet smoothed; 1 example:

13-11-123 k: RBrW? wet smoothed; frags. of large model bowl table.

Group F: traditional bread pots and trays:

Type F-XXV: bread pot ('flower pot'); 1 example:

13-11-123 m: mud ware; frags.

SUMMARY of vessels of identified types:

Group A: type II b, 4; VI, 2; LI, 2; LVI, 1; total 9 examples.

Group B: type XVII, 1; XIX, 3; LIV, 3; LV, 5; LVI, 4; LVIII, 1; total 17 examples.

Group C: type XXXII 1; LXI, 4; total 5 examples.

Group D: type XXXV, 2; XXXVI, 4; LXXI, 1; LXXIV, 1; LXXIX, 10+; total, 18+.

Group E: type XXI a, 1 example.

Group F: type XXV, 1 example.

Sum Total of vessels of identified types, 51+ vessels; total types, 19.

Later Constructions:

In the street east of G 4440 was a small mastaba G 4441, against the back of G 4540, leaving a passage between G 4441 and G 4440.

In the intersection of the avenue north of G 4440 and the street east of it was another small mastaba, G 4442, built against the south end of the exterior c.b. chapel of G 4450 and around the SE corner of that mastaba.

G 4540: row 4, line 5:

See Map 6 and Figs. 38, 288 (shaft), 289 (objects).

See Pls. 49 d-f, 50 a-c, 55 a, 59 f.

Excavated: December 6th-16th, 1913.

Owner: no name preserved; portrait head of a woman.

Mastaba: core type IV-i uncased; 23.25 × 10.3 m.; area, 238.47 sq. m.; prop. 1/2.25; h. 4.5+ cm.

Chapel: exterior c.b. chapel of type (1 c), altered and partly destroyed; 4 rooms:

- (a) N-S offering-room with face of core as west wall; 5.75 × 2.6 m.; area, 14.95 sq. m.; prop. 1/2.21; entered from east, from (c) by doorway in north end of east wall; doorway to (b), in east end of south wall.
- (b) E-W magazine south of (a); 1.3 × 2.6 m.; area, 3.38 sq. m.; entered from (a) by doorway in east end of north wall.
- (c) room east of (b) south of (d); a N-S room altered by intrusive burial G 4543 and rubble walls of reconstruction; 3.5 × 1.9 m.; area, 6.65 sq. m.; entered from north from (d), but probably entered originally from south.
- (d) vestibule room, north of (c); partly destroyed; 1.3 × 1.9 m. area, 2.47 sq. m.; entered from north; doorway to (a), in north end of west wall; doorway to (c) in south wall:

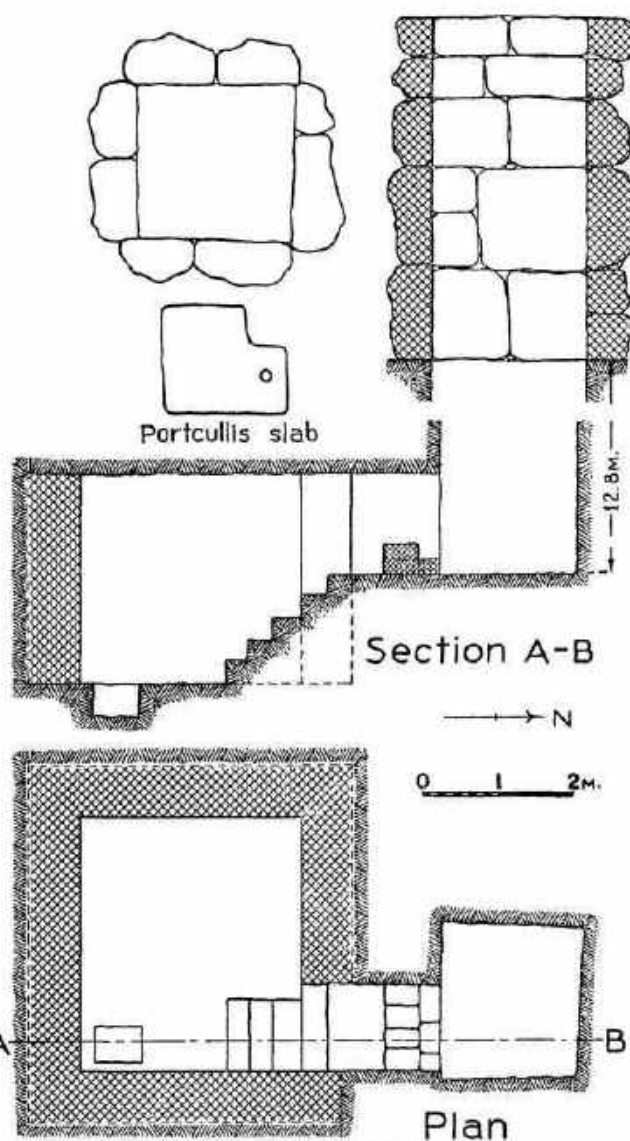


Fig. 288. G 4540 A

Total area, (a)-(d), 27.45 sq. m.

Shaft G 4540 A: sole shaft in place of shaft in one-shaft mastaba; 2.05×2.05 m.; — 12.8 m. in rock; lined above with massive masonry, 4.5 m.; 4 courses.

Chamber: type 2 ar (stair), lined but not paved; on south; lined chamber, 2.92×3.37 m. and 2.8 m. high; area, 9.84 sq. m.; capacity, 27.55 cu. m.; lining plastered with white plaster; rock chamber, 4.3×4.75 m. and 2.8 m. high; area, 20.42 sq. m.; capacity, 57.17 cu. m.

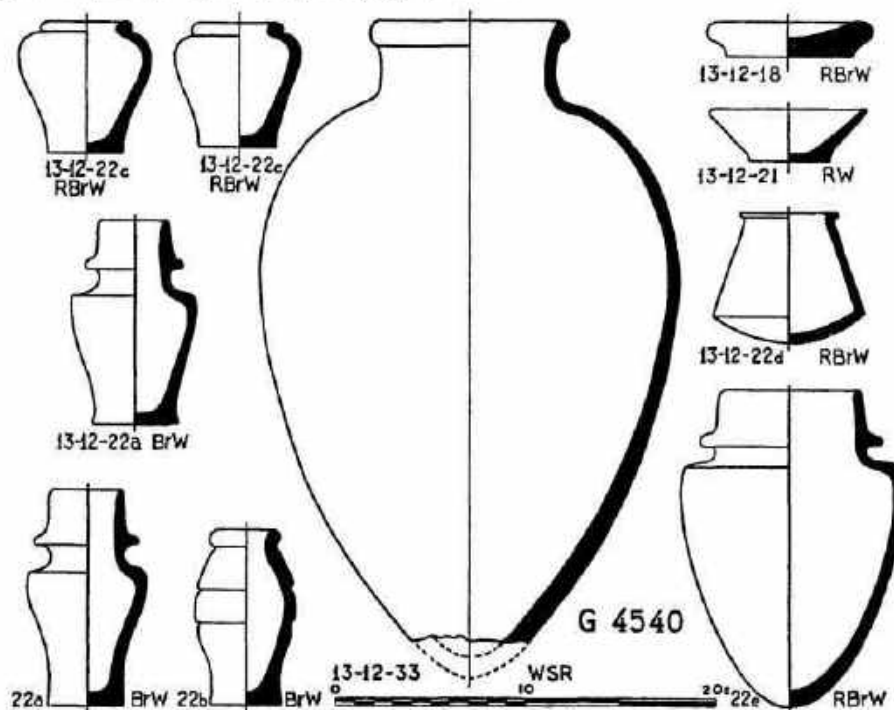


Fig. 289

Passage: 1.86×1.15 m. and 1.3 m. high; stair descends from rock floor of passage to rock floor of chamber by five rises; the top step, of the same width as the passage, is inside the inner end of the passage, the other four steps inside the chamber measured together 1.0×0.95 m. and 1.2 m. high; total height from floor of passage to floor of chamber, 1.5 m.

Blocking: interior masonry of white limestone set in plaster partly broken out; outside, a portcullis slab with rope holes in upper end; 1.65 m. wide, 1.43 m. high, 0.36 m. thick, of white limestone; type I b (1).

Coffin: disturbed skeleton along west wall mixed with decayed frags. of wood; probably wooden coffin: probably panelled with *krst* lid.

Burial: see coffin.

Canopic pit: in SE corner; 0.54×0.6 m. and 0.45 m. deep; cut in rock floor.

Objects: found in thieves' debris in bottom of shaft:

13-12-11: white limestone; portrait head of a woman (reserve head). Photos. C 5437-5340 (Pls. 49 c, 55 a).

Potsherds found in the shaft have been listed with the pottery found in the chamber.

Objects: found in the chamber:

13-12-20: wood: frags. of decayed pieces of wood, some round and some oblong, probably from panelled *krst*-coffin.

Pottery: found in thieves' debris in shaft and chamber:

Group A: round-bottomed or pointed jars:

Type A-II b: large wine-jars; 12 jars:

13-12-16 a: WSR; frags. from over 5 jars.

13-12-28: WSR; 3 examples.

13-12-29: WSR (pinkish); 3 jars.

13-12-33: WSR (pinkish); incomplete; h. 35+ cm.; d. rim, 9.6 cm.; d. max. 22 cm. Fig. 289.

Type A-LI a: bag-shaped jar (or pot); 1 example:

13-12-22 d: RBrW; h. 6.8 cm.; d. rim, 5.3 cm.; d. max. 8.0 cm. Photo. C 5454 (1/3). Fig. 289.

Type A-LVI b: collar jar with pointed base; 1 example:

13-12-22 e: RBrW; h. 19 cm.; d. max. 11 cm. Photo. C 5458 (2/1). Fig. 289.

Group B: flat-bottomed jars:

Type B-LV b: neckless shoulder jar; 4 examples:

13-12-16 c: RBrW; frags.

13-12-22 c: RBrW; 3 examples (1 incomplete); h. 7.0 cm.; d. shoulder, 6.7 cm.; d. base, 4.2 cm. Photo. C 5454 (1/4, 5). (b) h. 6.6 cm.; d. shoulder, 6.6 cm.; d. base, 4.2 cm. Fig. 289.

Type B-LVI a: collar jar, flat bottom; 3 examples:

13-12-17: RBrW; with splay foot; h. 11.9 cm.; d. top, 3.2 cm.; d. collar, 5.0 cm.; d. body, 5.6 cm.; d. min. 3.6 cm.; d. base, 4.8 cm.

13-12-22 a: BrW; 2 examples; (a) h. 10.8 cm.; d. top, 3.8 cm.; d. collar, 5.0 cm.; d. body, 6.5 cm.; d. base, 4.3 cm. Photo. C 5454 (2/1). (b) h. 11.2 cm.; d. top, 3.8 cm.; d. collar, 5.3 cm.; d. body, 6.1 cm.; d. base, 4.2 cm. Photo C 5454 (2/2). Fig. 289.

Type B-LVIII: barrel jar with cord belt; 2 examples:

13-12-16 b: RBrW; with grooves to represent belt; frags.

13-12-22 b: BrW; with simplified belt; h. 9.4 cm.; d. rim, 3.6 cm.; d. max. 5.1 cm.; d. base, 3.8 cm. Photo. C 5454 (1/2). Fig. 289.

Group C: round-bottomed basins and bowls; no examples.

Group D: flat-bottomed basins and bowls:

Type D-XXXVI a: recurved rim and spout; 3 examples:

13-12-16 d: RP; frags.

13-12-16 e: RBrW, smooth; frags. of small bowl with tubular spout.

13-12-30: RP; rim broken off; h. 15+ cm.; d. body, c. 46 cm.

Type D-LXXI a: tub with band rim; 2 examples:

13-12-16 g: frags.

13-12-31: tub ware; d. 45-50 cm.

Type D-LXXII e: contracted mouth with internal rim (stone form); 1 example:

13-12-16 f: RBrW, smoothed; frags. of large bowl.

Type D-LXXIX a: model basins; 59 examples:

13-12-19: RBrW; 2 examples; h. 2.8 cm.; d. rim, 6.2 cm.; d. base, 3.4 cm.

13-12-21: RW; 57 examples; h. 2.4 cm.; d. rim, 6.4 cm.; d. base, 4.4 cm. Pl. 59 f, Fig. 289.

Type D-LXXIX d: model basin with convex sides, shallow form; 1 example:

13-12-18: RBrW, thick; h. 1.6 cm.; d. max. 8.8 cm.; d. base, 6.6 cm. Fig. 289.

SUMMARY OF POTTERY vessels of identified types:

Group A: type II b, 12; LI, 1; LVI, 1; total 14 vessels.

Group B: type LV, 4; LVI, 3; LVIII, 2; total 9 vessels.

Group C: no examples.

Group D: type XXXVI, 3; LXXI, 2; LXXII, 1; LXXIX, 60; total 66 examples.

Sum Total of vessels of identified types, 89, mostly models; total types, 10 types; the pottery preserved is obviously defective with many vessels destroyed or removed by plundering.

Later Constructions:

In the north end of the street east of G 4540 stands the small mastaba G 4541, built against the back of G 4640.

South of G 4541, stands a small mastaba G 4542, on independent site.

In the exterior chapel room (c) was intruded a shaft G 4543.

In the avenue north of G 4540 stands the small stone mastaba, G 4544, built against the southern end of G 4550.

G 4640: row 4, line 6:

See Map 6 and Figs. 290 (shaft), 291 (objects).

See Pls. 50 d-f; 51 a-c; 55 b, 58 b, g.

Owner: no name preserved; portrait head indicates a member of royal family.

Mastaba: core type IV-i; 23.2×9.9 m.; area, 229.68 sq. m.; prop. $1/2.34$; h. $4.2+$ m.; retaining wall of five courses.

Cased with white limestone (X-masonry) nearly completely destroyed; 24.9×12.0 m.; area, 291.29 sq. m.; prop. $1/2.05$.

Chapel: exterior white stone chapel of type (2 b); N-S offering-room, 3.9×1.4 m.; area, 5.46 sq. m.; prop. $1/2.89$;

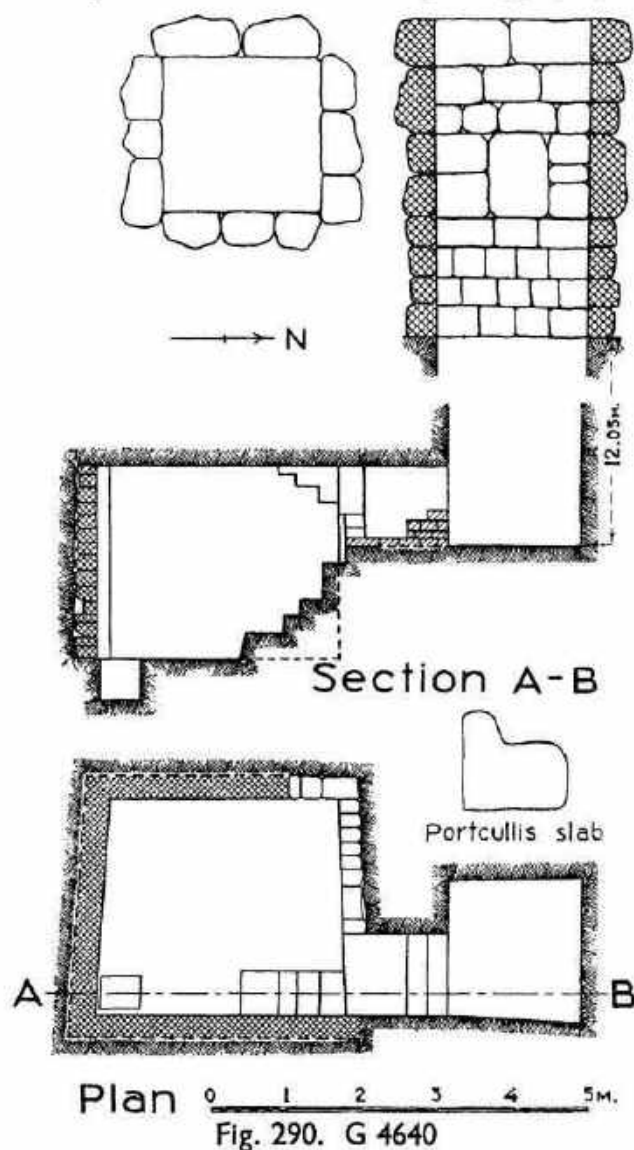


Fig. 290. G 4640

with monolithic ka-door in south end of west wall set in casing; entered from east by doorway in north end of east wall.

Exterior c.b. chapel of type (1 e); 2 rooms:

(b) N-S room around entrance to (a); 5.0×1.5 m.; area, 7.5+ sq. m. entered from north from (c) by doorway in east end of north wall.

(c) vestibule (?) room, north of (b); 1.5×4.2 m.; area, 6.3 sq. m.; north wall partly destroyed; probably entered from north from passage along face of mastaba; doorway to (b) in east end of south wall.

Total area, c.b. rooms (b), (c), 13.8+sq. m.

Total floor area of chapel (a)-(c), 19.26 sq. m.

Shaft G 4640 A: sole shaft (one-shaft mastaba): 2.1×2.05 m.; contracting to 1.75×1.87 m. at bottom; -12.05 m. in rock; lined above with massive masonry, 4.2 m.; 8 courses.

Chamber: type 2 br (stair), lined but not paved; on south; lined chamber, 3.2×2.88 m. and 2.56 m. high; area, 9.22 sq. m.; capacity, 23.6 cu. m.; rock chamber, 3.77×3.5 m. and 2.56 m. high; area, 13.19 sq. m.; capacity, 33.76 cu. m.

Passage: 1.36×1.1 m. and 1.08 m. high; the stair is narrower than the passage and descends in four steps (five rises); 1.4×0.6 m. and 1.5 m. high from floor of chamber to floor of passage.

Blocking: remains of interior masonry of white limestone set in plaster; exterior portcullis slab of white limestone with top broken off; 1.37 m. wide, 1.3+ m. high and 0.35 m. thick; blocking type I b (1).

Coffin: no trace.

Canopic pit; in SE corner; 0.6×0.4 m. and 0.57 m. deep, cut in rock floor.

Burial; skull and bones scattered in SE corner.

Objects: found in thieves' debris in bottom of shaft:

13-12-7: white limestone; portrait head of a man; life size. Pl. 50 e (*in situ*), Pl. 55 b.

13-12-10: alab. type S-I e, cosmetic jar; h. 7.4 cm.; d. rim, 3.4 cm.; d. mouth, 2.8 cm.; d. min. 3.8 cm.; d. base, 4.9 cm.; thickness bottom, 1.0 cm. Pl. 58 b (1/2). Fig. 291

13-12-6: alab.; round-bottomed bowl with internal rim; type S-IX c; h. 5.6 cm.; d. max. 30.8 cm.; d. top, 20 cm.; d. internal rim, 19.2 cm. Pl. 58 b (1/1). Fig. 291.

13-12-8: alab.; flat-bottomed bowl with plain rim; h. 8 cm.; d. max. 24.6 cm.; d. mouth, 23.2 cm.; d. base, 5.4 cm. Pl. 58 b (2/1). Fig. 291.

13-12-5 and 9: flint; round-ended razor blades; 2 examples, (Fig. 291):

(a) length, 10.1 cm.; w. 2.6 cm. Pl. 58 g (1/3).

(b) length, 8.6 cm.; w. 2.5 cm. Pl. 58 g (1/4).

13-12-12, 13: two model pottery jars included with the pottery from the chamber.

Pottery: vessels of identified type: found in thieves' debris in shaft and chamber:

Group A: jars with rounded or pointed base:

Type A-II b: large wine-jar; 2 examples:

13-12-24 f: and 24 g: WSR; frags. of two jars.

Type A-IV: traditional offering-jar; 2 examples:

13-12-23 and 27: coarse RW; frag. of a base and nearly complete: (2) h. 28 cm.; d. max. 14.4 cm.

Group B: flat-bottomed jars:

Type B-LV b: neckless shoulder jar; models, large 5 examples:

13-12-24 c: RBrW; frags. of five jars about 10 cm. high.

Type B-LVI a: collar jar, flat base; 3 examples:

13-12-13: RBrW; h. 10.8 cm.; d. top, 3.6 cm.; d. collar, 5.2 cm.; d. body, 5.8 cm.; d. base, 4.4 cm. Fig. 291.

13-12-24 a: BrW; frags. of 2 examples like 13-12-13.

Type B-LVIII: barrel jar with belt; 1 example:

13-12-12: RBrW; h. 10 cm.; d. rim, 4 cm.; d. max. 5.8 cm.; d. base, 4.6 cm. Fig. 291.

Type B-XLIX: small degenerate models; 12 examples of different forms:

13-12-25: RW: 12 examples of different forms:

(a) neckless shoulder jars; 3 examples; h. 4.8 cm.; d. max. 5.0 cm.; d. base, 1.6 cm. Fig. 291.

(b) degenerate collar jar; 4 examples; h. 6.6 cm.; d. top, 3.2 cm.; d. rim, 4 cm.; d. max. 4.0 cm.; d. base, 2.6 cm. 7 models not determined. Fig. 291.

Group C: round-bottomed basins and bowls:

Type C-LXII a: bowl with contracted mouth and plain rim; 1 example:

13-12-24 d: RP; frags. only.

Group D: flat-bottomed basins and bowls:

Type D-XXXVI a: recurved rim and tubular spout; 1 example:

13-12-24 e: RBrW, smooth; small bowl; frags.

Type D-LXXIX b: large model basins; 18 examples:

13-12-15: RBrW; 3 examples: (a) h. 2.8 cm.; d. 7.4 cm.; d. base, 3.4 cm.; (b) h. 3.6 cm.; d. max. 7.2 cm.; d. base, 4.2 cm.; (c) h. 3.8 cm.; d. max. 8.0 cm.; d. base, 4.2 cm. Fig. 291.

13-12-24 b: RBrW; 15 models of various sizes ranging around the examples in 13-12-15.

Type D-LXXIX c (1): small model basins with concave sides; 7 examples:

13-12-26: RW; 7 examples; (a) h. 2.2 cm.; d. max. 6.8 cm.; d. base, 2.4 cm. Fig. 291.

Type D-LXXIX d: shallow clumsy models; 12 examples:

13-12-14: RBrW; 12 examples; (a) h. 2.0 cm.; d. max. 9.8 cm.; d. base, 5.8 cm. Fig. 291.

SUMMARY: vessels and models of identified types:

Group A: type A II b, 2; IV, 2; total 4 jars.

Group B: type LV, 5; LVI, 3; LVIII, 1; XLIX, 12; total 21 examples.

Group C: type LXII, 1; total 1 example.

Group D: type XXXVI, 1; LXXIX, 37 models; total 38 examples.

Sum Total of vessels and models of identified types, 64 examples; total types 9.

The large number of small models and the small number of practical vessels is to be noted.

Objects: found in debris of chamber in street east of G 4640:

13-12-34: alab.; four frags. of table top, type S-XII a; d. c. 38 cm.

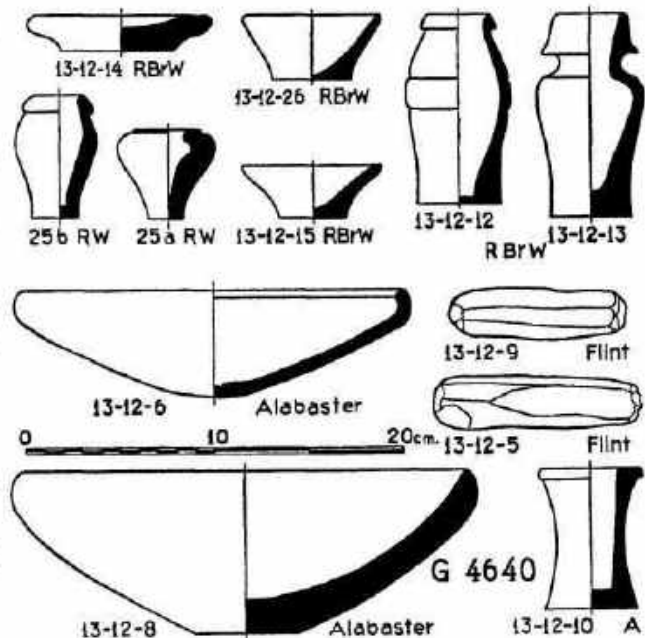
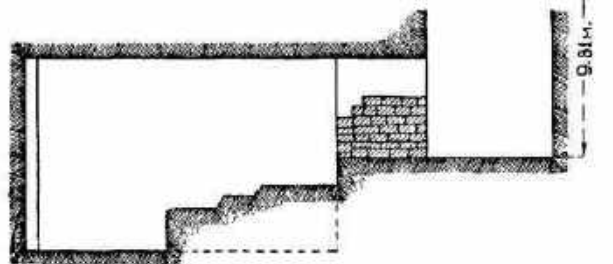
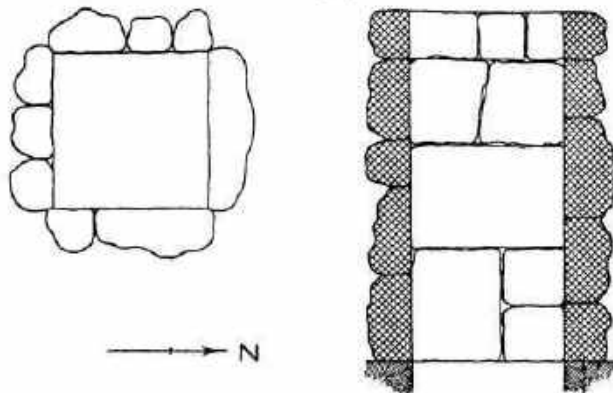


Fig. 291. G 4640

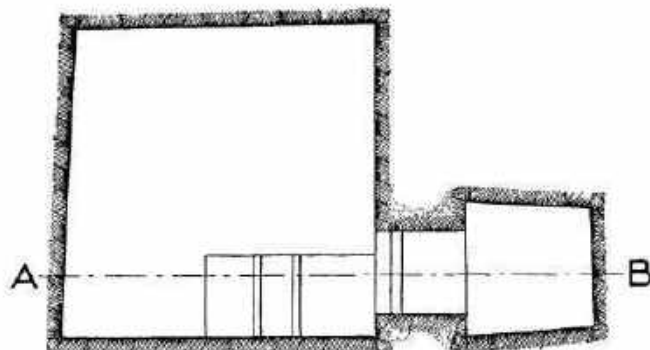
13-12-35: alab.; frag. from a statue base or offering-basin; one end polished; polished end c. 1 cm. square; length of broken part, 9 cm.

Later Constructions:

Small stone mastaba G 4641 built around SW corner of G 4740 and partly in chapel of G 4640.



Section A-B



Plan 0 1 2 3 4 5 m.

Fig. 292. G 4740

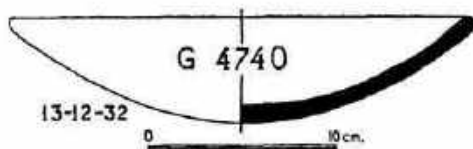


Fig. 293

Coffin: frags. of decayed panelled wooden coffin scattered with bones on floor.

Burial: skull and bones scattered on floor.

No canopic pit.

Objects: found in thieves' debris:

13-12-32 a: RBrW, smooth; wide shallow bowl with plain rim and round bottom, type C-LXI c; h. 5.7 cm.; d. 24.1 cm. Photo. C 5458 (1/1). Fig. 293.

Small stone mastaba, G 4642, built north of the exterior c.b. chapel of G 4640 with space between mastaba and G 4640.

Small mastaba, G 4643, on independent site just north of G 4642.

In the intersection of the avenue north of G 4640 and the street east of it stand two small stone mastabas, G 4644 and G 4645; G 4645 is built against the south end of the exterior chapel of G 4650 and G 4644 against the south end of G 4645.

In the avenue north of G 4640, west of G 4645 stands a small stone mastaba G 4646, built against the south end of G 4650.

G 4740: row 4, line 7:

See map 6 and Fig. 292 (shaft), 293 (pottery bowl).

See Pl. 51 d-f.

Owner: no name and no portrait head.

Excavated: December 17th-25th, 1913.

Mastaba: core type IV-i, uncased; 23.0 × 9.6 cm.; area, 220.8 sq. m.; prop. 1/2.39; h. 4.6-5.0 m.

Chapel: no trace preserved; from the SE corner of G 4740 northwards for 7.4 m. there is a clear space where a c.b. chapel could have been built; from this point northwards, two stone mastabas are built against the east face of G 4740.

Shaft G 4740 A: sole shaft (one-shaft mastaba); 2.05 × 2.05 m. contracting to 1.67 × 1.7 m. at bottom; -9.81 m. in rock; lined with massive masonry, 4.64 m.; 4 courses.

Chamber: type 2 cr (stair), not lined; on south; 4.03 × 4.16 m. and 2.56 m. high; area, 16.66 sq. m.; capacity, 42.64 cu. m.

Passage: 1.19 × 1.1 m. and 1.35 m. high; stairway of three steps (four rises) descends from floor of passage to floor of chamber; 2.25 × 1.1 m. and 1.21 m. high; the steps begin in the angle of the rock wall left for the lining.

Blocking: interior blocking of masonry set in plaster, type II b; no portcullis slab was found.

13-12-32 b: alab.; 2 small frags.

Later Constructions: against the east face of the core, north of the place for the chapel stand two stone mastabas; on south is the medium-sized mastaba G 4741 with passage between it and back of G 4840; small destroyed mastaba, G 4742 if built against the north end of G 4741.

G 4750: row 5, line 7:

Excavated: by Junker, *Giza I*, pp. 234-242.

Owner: Akhi, *sib* *gd-mr*, [*hry* *š*] *š*, [*wr*] *md* *šmcrw*, *hrp* *nšty*, *imy-r* *šmwt nšwt*, *imy-r* *prwy-hd*, *imy-r* *ššw cprw*, *imy-r* *kit nbt nšwt*, *imy-r* *mhnk-wy* [*nšwt*], *hrp* *wšht*, [*mry nb*]-*f*, *mrrw nb-f*, *nb tmšhw h[r nb]-f* *iri mrrt ntr-f r nb, rh nšwt*.

Mastaba: core type IV-i; 22.9 × 9.75 m.; area, 223.28 sq. m.; prop. 1/2.35; four courses, 6.0 m. high.

Cased with white limestone (x-masonry) either unfinished or destroyed; 24.8 × 11.5 m.; area, 292.64 sq. m.; prop. 1/2.15.

Chapel: exterior stone chapel of type (2 b), built against face of core probably to be included in casing; 3.7 × 2.0 m. area, 7.4 sq. m.; prop. 1/1.85; with *ka*-door in south end of west wall and small serdab behind the niche; entered from east by doorway in north end of east wall; decorated but badly damaged.

Shaft G 4750 A: sole shaft; 2.1 × 2.1 m.; — 10.0 m. in rock; lined above with heavy masonry, 6.0 m.

Chamber: type 2 br (stair), not lined; on south; 4.0 × 4.4 m. and 2.6 m. high; area, 17.6 sq. m.; capacity, 45.86 cu. m.; with coffin recess in west wall; 2.7 × 1.6 m.; area, 4.32 sq. m.; h. 0.15 m.; capacity, 6.48 cu. m.; total area, 21.92 sq. m.; total capacity, 52.24 cu. m.

Passage: 1.4 × 1.35 m. and 1.5 m. high; stair descends from floor of passage to floor of chamber.

Coffin: frags. of white limestone coffin of type d.

No canopic pit.

Objects: frags. of jar of type B-LIV; bowl with recurved rim and tubular spout, type D-XXXVI; wide shallow bowls, type C LXI c; bent-sided bowl of RP, type C-XXX; neckless shoulder jar of type B-LV; models of type B-LVI and type D-LXXIX.

Later Constructions:

G 4751, filling avenue north of G 4750 and between it and G 4760.

G 4752, in street north of southern chapel of G 4750, a confused complex of superstructures and shafts.

G 4760: row 6, line 7:

Excavated: by Junker, *Giza I*, pp. 231-234.

Owner: no name.

Mastaba: core type IV-i, not cased; 24.6 × 11.0 m.; area, 270.6 sq. m.; prop. 1/2.24; h. 6.0 m.; 3-6 courses in various parts.

Chapel: probably exterior c.b. chapel of type (1 c), but destroyed by intrusive construction.

Shaft G 4760 A: sole shaft; 2.2 × 2.2 m.; contracting to 1.7 × 1.7 m. at bottom; — 10.0 m. in rock; lined above with massive masonry, 5.0 m.

Chamber: 2 dr (stair), not lined or paved; 4.1 × 4.0 m. and 3.1 m. high; area, 16.4 sq. m.; capacity, 50.84 cu. m.

Passage: 1.04 × 1.15 m. and 1.3 m. high; stair descending from floor of passage to floor of chamber, 1.45 × 1.1 m. and 1.8 high; three steps and four rises.

Blocking: c.b. of type II a.

Coffin: frag. of white limestone coffin and also of inner case of wood.

Burial: scattered bones, including skull.

Objects: found in thieves' debris: 2 two-handed oil-jars of type B-LIV; 1 or 2 shoulder jars of type B-XVIII; jar of type A-II b; basin with roll rim and short tubular spout, type XXXV; and other potsherds.

Later Constructions:

G 4761 (Nofer I) built against the west side and around the NW corner of G 4860: excavated by Professor Junker.

G 4762 built against the south end of G 4761.

G 4763-4765: complex of three small mastabas; G 4765 was built around the SW corner of G 4860 and the other two added to the north end of it in succession: excavated by Professor Junker.

4. The nine mastabas of the third addition to Cem. G 4000: G 4330-4830 and 4840-4860: six excavated by the Harvard-Boston Expedition and three by Professor Junker.

G 4330: row 3, line 3: first core on west of row:

See Map 6 and Fig. 294 (shaft).

See Pl. 60 a, b.

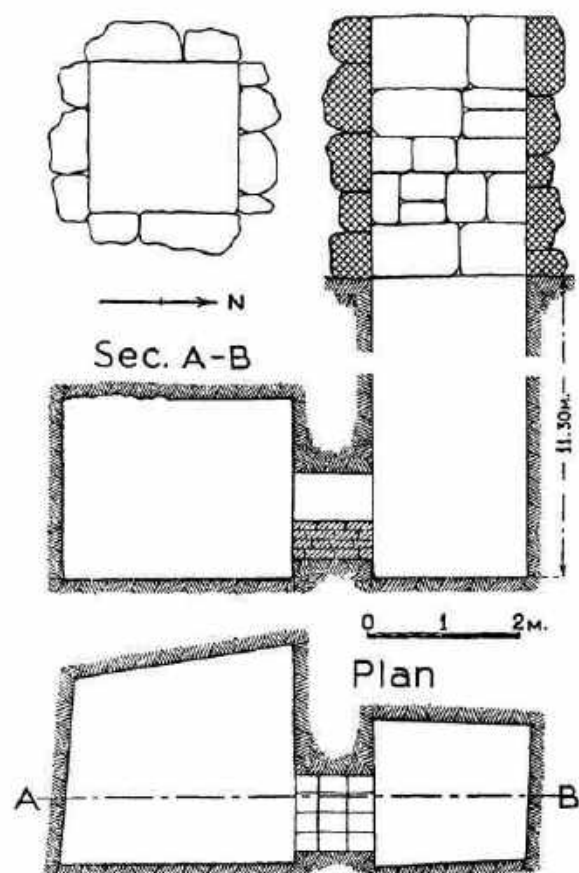


Fig. 294. G 4330 A

Excavated: December 3rd-17th, 1913; January 19th, 1914.

Owner: no name found.

Mastaba: core type IV-i; not cased; 24.4×10.0 m.; area, 244.0 sq. m.; prop. $1/2.44$; h. 3.4 m.; 4 courses.

Chapel: exterior c.b. chapel of type (1 c); two parallel rooms:

(a) N-S offering-room with niche in c.b. west wall at south end; 3.65×1.4 m.; area, 5.05 sq. m.; prop. $1/2.6$; entered from east from b, by doorway in north end of east wall.

(b) N-S room east of (a) and built later than (a): 3.65×2.05 m. area, 7.48 sq. m.; entered from north by doorway in east end of north wall; doorway to (a) in north end of west wall.

Total area, (a) and (b), 12.53 sq. m.

Shaft G 4330 A: sole shaft (one-shaft mastaba); 2.05×1.95 m.; -11.3 m. in rock; lined above with massive masonry, 3.4 m.; 5 courses.

Chamber: type 3 bl; on south; 3.0×2.65 m. and 2.3 m. high; area, 7.95 sq. m.; capacity, 18.28 cu. m.

Passage: 1.06×1.05 m. and 1.1 m. high; step down from floor of passage to floor of chamber, 0.3 m.

Blocking: interior blocking of masonry set in plaster; type II b (1).

Burial: on floor of chamber, scattered bones of skeleton.

Objects: found in thieves' debris in lower part of shaft and in chamber:

13-12-3: a single basket (working basket) of potsherds was gathered up: three types were identified:

(3 c) large wine-jar of type A II-b, WSR.

(3 d) Type A-VI c, FRW; h. 16.4 cm.; d. rim, 5.0 cm.; d. neck, 4.4 cm.; d. max. 12.4 cm. Photo. C 5451 (2/1).

(3 a) large wine-jar of type II-b, WSR.

(3 b) Frag. from rim of large jar of unidentified type.

Later Constructions:

G 4331: small c.b. mastaba built against the east face of the core and abutting on north end of the chapel.

G 4332: small rubble mastaba, built against east face of core near NE corner.

G 4333: medium mastaba of u-masonry built between north end of core and south end of casing of G 4340.

G 4430: row 3, line 4:

See Map 6 and Figs. 5 (mastaba), 23 (shaft), 106 (chapel), 207 (south ka-door), 295 (sealings).

See Pls. 60 c; 62 d.

Excavated: December 3rd-8th, 1913; January 14th-23rd, 27th-8th, 1914.

Owner: no name preserved.

Mastaba: core type IV-i, not cased; 24.0×9.9 m.; area, 237.6 sq. m.; prop. $1/2.42$; h. 4.0 m., 6 courses; with monolithic stela inserted in retaining wall near south end of east face.

Chapel: Exterior c.b. Chapel of type (1 c) around monolithic stela; with three rooms:

- (a) N-S offering-room around stela; 4.42×1.8 m.; area, 7.96 sq. m.; prop. 1/2.46; entered from (b) by doorway in north end east wall; uninscribed rectangular offering-basin in front of stela.
- (b) N-S vestibule room; east of north part of (a); 2.27×1.05 m.; area, 2.38 sq. m.; entered from east by doorway in south end of east wall; doorway to (a) in north end (?) of west wall; doorway to (c), in south wall.
- (c) N-S magazine, south of (b); 1.7×1.05 m.; area, 1.79 sq. m.; entered from north, from (b), by doorway in north wall.

Total area, (a)-(c), 12.13 sq. m.; open corridor between chapel and back of G 4530 blocked by later rubble wall on south.

At 4.2 m. north of the chapel are the remains of rubble wall (E-W), 0.9 m. thick but broken at its east end preserved to a length of 4.2 m. from G 4430; probably marked off a sort of court north of chapel.

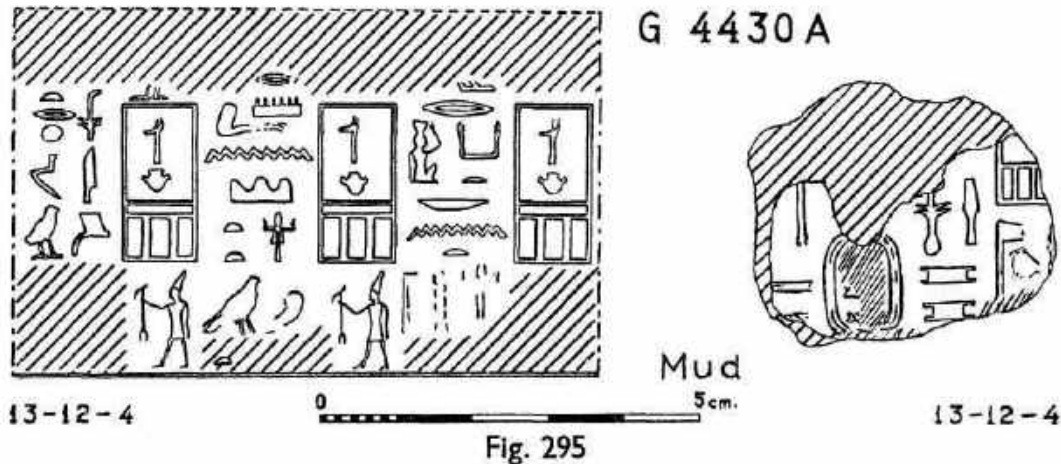


Fig. 295

Shaft G 4430 A: sole shaft (one-shaft mastaba); 2.1×2.1 m.; contracting slightly to bottom; —4.05 m. in rock; lined above with massive masonry, 4.0 m.; 6 courses.

Chamber: type 5 a (2); on west; 2.8×1.3 m. and 1.6 m. high; area, 3.64 sq. m.; capacity, 5.82 cu. m.

Passage: 1.8×0.4 m. and 1.58 m. high.

Blocking: interior blocking of white masonry set in plaster (partly preserved); outside, portcullis slab, 1.5 m. high, 1.25 m. wide, and 0.4 m. thick; blocking type I b (1); but the slab did not cover the end of the passage.

Coffin pit: shallow, 2.3×1.0 m. and 0.15 m. deep.

Objects: found in thieves' debris in bottom of shaft and in chamber:

13-12-1: fine mud (mud modelling paste): frags. of portrait head (reserve head) surface very smooth: nose and mouth missing: found in shaft.

13-12-4: mud (sealing clay): two or three jar-stoppers, one partly complete; the imprint shows that the stopper had covered the mouth of a jar which had been covered with cloth tied with string; the top surface was covered with an impression of a cylinder seal with six vertical lines facing left or right alternately: (1) facing to right, *imy-rj kst nb nt* . . . ; (2) facing to left, *Hr-Wsr-ib* (in frame) det. by standing figure with crown of Upper Egypt; (3) facing right, *rmn¹ n smyt ibtt imntt* (?); (4) facing to left *Hr-Wsr-ib* (in frame) det. with standing figure of king with crown of Upper Egypt; (5) *rh nswt imshw* . . . ; (6) facing to left, *Hr-Wsr-ib* (in frame). Pl. 62 d, Fig. 295. A second fragment bears a cartouche of Chephren and the title *hrp mr. wy rh nswt*.

13-12-2: a small quantity of potsherds was found and classified as follows:

- (2 f) Type A-II b: WSR; frags. of large jar.
- (2 e) Type A-VI a: RBrW; h. 17.0 cm.; incomplete.
- (2 a) Type B-LIV: two-handled oil jar; special ware, broken incomplete.
- (2 c) Type B-LVI and LVIII: BrW; a number of jars.
- (2 b) Type C-XXXII (?): RP; frags. of one or more thin bowls with recurved rims.

¹ Although in Fig. 295 this is drawn as *rmn* it is probable that it should be corrected to *[h]r[y] [f]st*, compare Pl. 62 d.

(2 d) Type D-XXXVI a: RBrW, smooth; frags. of one or more bowls with recurved rim.

(2 c) Type D-LXXIX: BrW; a number of well-made model basins.

Later Constructions:

G 4431: small rubble mastaba, built against the east face of the core, south of chapel.

G 4432: a small rubble mastaba on independent site, east of G 4431 and south of chapel.

G 4433: small mastaba (area 18.23 sq. m.), rubble construction built against the east face of the core north of middle and against the rubble wall outlying the court of the chapel of G 4430.

G 4530: row 3, line 5:

See Map 6 and Figs. 108 (chapel), 296 (shaft), 297 a, b (objects).

See Pl. 60 d-f; 62 e-g; 63 a b.

Excavated: Dec. 13, 1913; Jan. 1-20, 31, and March 24, 1914.

Mastaba: core type IV-i, not cased; 23.65×10.1 m.; area, 238.87 sq. m.; prop. $1/2.34$; h., 4.0 m., 4-7 courses; in places a high course is partly built of two low courses.

Chapel: exterior rubble chapel of type (1 d) with one room: (a) N-S offering-room; 5.0×2.4 m.; area, 12.0 sq. m. prop. $1/2.08$; entered from east by doorway in north end of east wall; east face of core exposed in west side of offering-room; no niche.

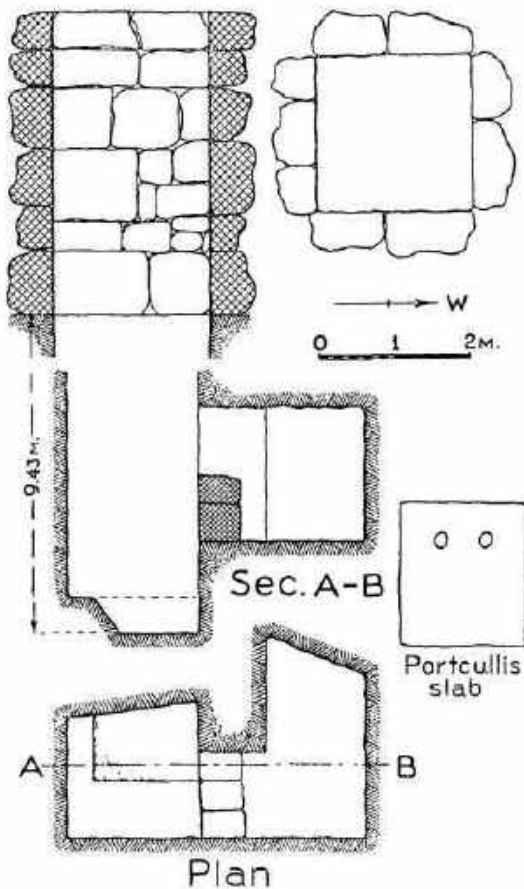
Shaft G 4530 A: sole shaft (one-shaft mastaba); 2.05×2.05 m. contracting at bottom to 1.75×1.7 m.; -9.43 m. in rock; lined above with massive masonry, 4.0 m.; 6 courses.

Chamber: type 4 a (2); on west; 2.4×1.3 m. and 1.78 m. high; area, 3.12 sq. m.; capacity, 5.55 cu. m.

Passage: 1.1×0.88 m. and 1.78 m. high.

Blocking: interior wall of masonry set in plaster (two courses in place) outside a portcullis slab, 1.9 m. high, 1.65 m. wide and about 35 cm. thick: with two holes in upper part: blocking type I b (1).

Objects: found in thieves' debris partly in bottom of shaft and partly in chamber.



Plan
Fig. 296. G 4530 A

Limestone Models: 113 examples, of which 78 were found in chamber and 35 in bottom of shaft:

Type S-I cm: cyl. jar; 10 examples:

14-1-67: white limestone; h. 6.6 cm.-8 cm.; d. 4.3-6.3 cm.; (a) h. 7.75 cm.; d. rim, 5.1 cm.; d. base, 4.3 cm. Pl. 63 a (2/1). Fig. 297 b.

Type S-I dm: cyl. jar with splay foot; 2 examples:

14-1-68: w. lst.; (a) h. 6.5 cm.; d. rim, 5 cm.; d. min, 3.25 cm.; d. base, 4.25 cm.; (b) h. 7 cm.; d. rim, 4.6 cm. Pl. 63 a (2/2). Fig. 297 b.

Type S-V extra: barrel jar with cord belt around middle; 7 examples:

14-1-70: w. lst.; h. 7-7.9 cm.; d. max., 4.1-4.7 cm.; (a) h. 7.2 cm.; d. rim, 3.2 cm.; d. max., 4.2 cm.; d. base, 3.2 cm.; h. of belt, 2.8 cm. Pl. 62 g (2/3). Fig. 297 b.

Type S-V a: shoulder jar with roll rim; 6 examples:

14-1-58: w. lst.; 2 examples; h. 6.4 cm.; d. rim, 3.25 cm.; d. shoulder, 3.9 cm.; d. base, 1.4 cm. Pl. 62 e (2/2). Fig. 297 b.

14-1-66: w. lst.; 4 examples; h. 4.8-5 cm.; d. max., 3-3.6 cm.; (a) h. 4.75 cm.; d. rim, 2.8 cm.; d. max., 3.5 cm.; d. base, 2.0 cm. Pl. 62 g (1/2). Fig. 297 b.

Type S-V cm: neckless shoulder-jar with open spout; 1 example:

14-1-65: w. lst.; h. 4 cm.; d. shoulder, 4.1 cm.; d. base, 2.45 cm.; w. with spout, 5+ cm. (end broken off). Pl. 63 a (1/2). Fig. 297 b.

Type S-XV a (1): shoulder with short neck and roll rim; 1 example:

14-1-60: w. lst.; h. 5.2 cm.; d. of body, 4.5 cm.; d. rim, 2.2 cm.; d. neck 2 cm.; d. shoulder, 2.7 cm.; d. base, 1.35 cm. Pl. 62 f (2/3). Fig. 297 b.

Type S-XVI a: collar jar with flat bottom: 4 examples:

14-1-63: w. lst., 1 example; h. 7.5 cm.; d. top, 2.8 cm.; d. collar, 3.9 cm.; d. max., 4.5 cm.; d. base, 2.1 cm. Pl. 62 f (2/1). Fig. 297 b.

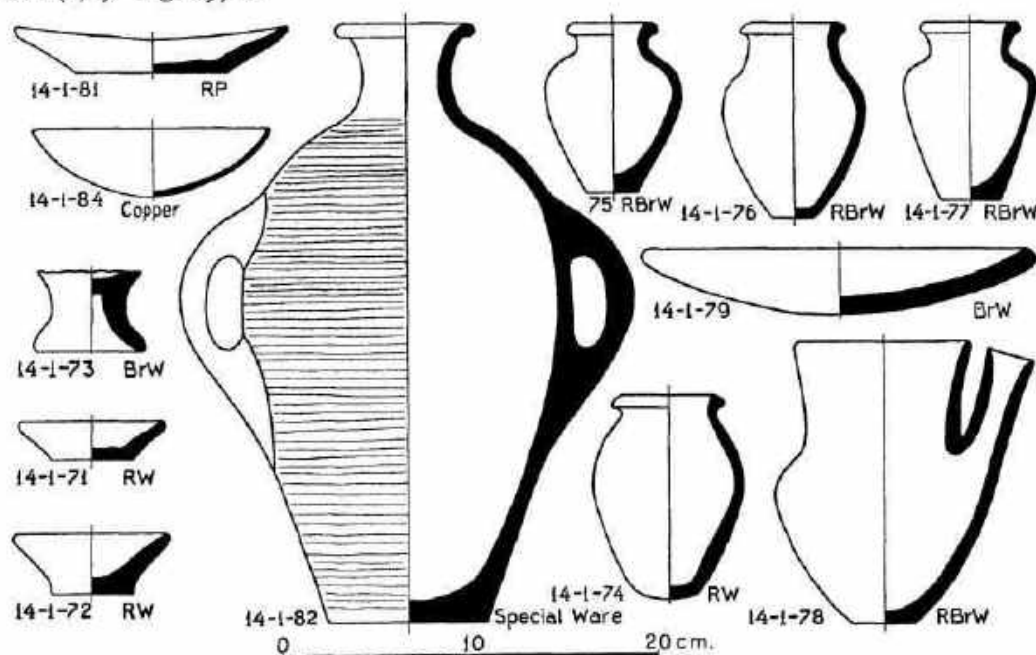


Fig. 297 a. G 4530

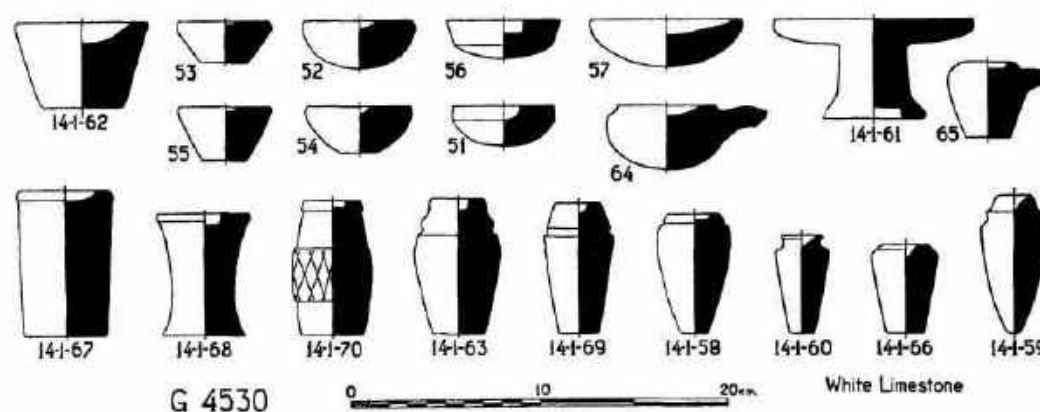


Fig. 297 b

14-1-69: w. lst.; 3 examples; h. 7 cm.; d. top, 2.35 cm.; d. collar, 3.3 cm.; d. max., 3.7 cm.; d. base, 2.1 cm. Pl. 62 e (2/1). Fig. 297 b.

Type S-XVI b: collar jar with pointed base; 1 example:

14-1-59: w. lst.; h. 7.4 cm.; d. top, 1.7 cm.; d. collar, 3.0 cm.; d. max., 3.4 cm. Pl. 62 f (2/2). Fig. 297 b.

Type S-IX a: wide shallow round-bottomed bowl with plain rim; 2 examples:

14-1-57: w. lst. (a) h. 2.5 cm.; d. 8.1 cm.; (b) h. 2.9 cm.; d. 10.8 cm. Pl. 63 a (1/3). Fig. 297 b.

Type S-IX b: deep bowl with round bottom; 26 examples (dummies):

14-1-51: w. lst.; 16 examples (14 complete); h. 1.6-2.4 cm.; d. 4.0-6.1 cm.; (a) h. 2.15 cm.; d. 5.3 cm. Pl. 62 g (2/2). Fig. 297 b.

14-1-52: w. lst. 10 examples (9 complete); h. 1.4-2.5 cm.; d. 4.33-6.3 cm.; (a) h. 2.5 cm.; d. top, 5.6 cm.; d. max., 5.9 cm. Pl. 62 g (2/1). Fig. 297 b.

Type S-IX d: model of bent-side bowl with round bottom; 1 example.

- 14-1-56: w. lst.; h. 2.0 cm.; h. upper part, 1.3 cm.; d. top, 6 cm.; d. bend-line, 5.1 cm. Pl. 62 c (1/1). Fig. 297 b.
- Type S-X a (1): flat-bottomed basin; shallow; 30 examples:
- 14-1-53: w. lst.; 10 examples; h. 1.6-2.0 cm.; d. 4.11-5.8 cm.; (a) h., 2.2 cm.; d. top, 4.7 cm.; d. max., 5.0 cm.; d. base, 2.5 cm. Pl. 62 f (1/2). Fig. 297 b.
- 14-1-55: w. lst.; 20 examples; h. 1.7-2.6 cm.; d. 3.8-6.5 cm.; (a) h. 2.75 cm.; d. top, 4.8 cm.; d. base, 2.3 cm. Pl. 62 c (1/2). Fig. 297 b.
- Type S-X a (2): model basin with flat bottom, deep forms; 1 example:
- 14-1-62: w. lst.; h., 4.5 cm.; d. top, 7.0 cm.; d. base, 4.2 cm. Pl. 62 g (1/1). Fig. 297 b.
- Type S-X b: model flat-bottomed basin; with contracted mouth; 19 examples:
- 14-1-54: w. lst.; 19 examples; h. 1.5-2.4 cm.; d. 4.5-6.5 cm.; (a) h. 2.4 cm.; d. top, 5.4 cm.; d. max., 5.55 cm.; d. base, 1.85 cm. Pl. 62 f (1/1). Fig. 297 b.
- Type S-X c: model of squat bowl with long open spout; 1 example:
- 14-1-64: w. lst.; h. 3.3 cm.; d. rim, 5.2 cm.; d. max., 6.6 cm.; w. with spout, 8.2 cm. Pl. 63 a (2/3). Fig. 297 b.
- Type S-XII bm: model of flat-topped circular table; 1 example:
- 14-1-61: w. lst., incomplete; h. 5.1 cm.; d. top, 10.5 cm.; d. base, 5.5 cm. Pl. 63 a (1/1). Fig. 297 b.
- SUMMARY OF LIMESTONE MODELS:
- Jars: type I, 12; V extra, 7; V a, 6; V e, 1; XV, 1; XVI, 5; total 32 examples.
- Round-bottomed bowls: type IX a, 2; IX b, 26; IX d, 1; total 29 examples.
- Flat-bottomed basins: type X a, 31; X b, 19; X c, 1; total 51 examples.
- Sum totals of basins and bowls, 80 examples.
- Flat-topped circular table, 1 example.
- Pottery: found in shaft and chamber:
- Group A: round-bottomed jars or pointed jars:
- Type A-II b: large wine-jar; 1 example:
- 14-1-83: WSR (greenish); incomplete; h. c. 42 cm.; d. rim, 12 cm.; d. neck, 8 cm.; d. body, 26.5 cm.; with remains of plaster inside.
- Group B: flat-bottomed jars:
- Type B-XVII b: ovoid jar with neck and roll rim; 11 examples:
- 14-1-75: RBrW, wet smoothed; 4 examples (one incomplete); h. 9-9.8 cm.; d. max., 7.2-8 cm.; (a) h. 9.0 cm.; d. rim, 4.4 cm.; d. neck, 4 cm.; d. max., 7.2 cm.; d. base, 2.8 cm. Pl. 63 b (2/3). Fig. 297 a.
- 14-1-76: RBrW, wet smoothed; 2 examples; h. 10.3 cm.; d. rim, 5.0 cm.; d. neck, 4.8 cm.; d. max., 7.6 cm.; d. base, 2.2 cm. Pl. 63 b (2/1). Fig. 297 a.
- 14-1-77: RBrW, wet smoothed; 5 examples, all incomplete; h. 9.0-9.9 cm.; d. 7.1 cm.; (a) h. 9.4 cm.; d. rim, 5.0 cm.; d. neck, 4.2 cm.; d. body, 7 cm.; d. base, 3.2 cm. Pl. 63 b (2/4). Fig. 297 a.
- Type B-XVII c: elliptical body with neck and roll rim; 1 example:
- 14-1-74: RW; h. 10.7 cm.; d. rim, 5.2 cm.; d. neck, 5.0 cm.; d. body, 8.0 cm.; d. base, 3.0 cm. Pl. 63 b (2/2). Fig. 297 a.
- Type B-LIV: two-handled oil jar; 1 example:
- 14-1-82: special ware; cream slip, potter's mark; nearly complete; h. 32 cm.; d. rim, 7.8 cm.; d. neck, 5.6 cm.; d. body, 17.8 cm.; d. base, 8.6 cm.; w. with handled, 24.8 cm. Photo. C 5578. Fig. 297 a.
- Type B-LIX a (1): jug with shoulder, high neck, and nearly upright long tubular spout; 1 example:
- 14-1-78: RBrW, red wash; h. 15.0 cm.; d. rim, 9.2 cm.; d. neck (min), 8.4 cm.; d. body, 11.4 cm.; d. base, 3.0 cm.; w. with spout, 13.9 cm.; h. to top of spout, 14.0 cm. Photo. C 5579 (1/1). Fig. 297 a.
- Group C: round-bottomed basins and bowls:
- Type C-LXI a: shallow pan with plain rim; 4 examples:
- 14-1-79, 80: BrW, wet smoothed; 4 dishes (1 incomplete); h. 3.1-3.7 cm.; d. 21.0-22.9 cm. Pl. 63 b (1/1). Fig. 297 a.
- Group D: flat-bottomed basins and bowls:
- Type D-LXXIII: shallow pan with plain rim; 1 example:
- 14-1-81: RP (dull); distorted in baking; h. 2.6 cm.; d. max., 14 cm.; d. base, 8.0 cm. Pl. 63 b (1/2). Fig. 297 a.

Type D-LXXIX a: model basins shallow forms; 12 examples:

14-1-71: RW: 12 examples (7 complete); h. 2.2-2.5 cm.; d. 7.0-8.7 cm.; (a) h. 2.1 cm.; d. rim, 7.7 cm.; d. base, 4.1 cm. Photo. C 5579 (1/2). Fig. 297 a.

Type D-LXXIX b: models, deep forms; 2 examples:

14-1-72: RW, 2 examples (1 incomplete); h. 3.2 cm.; d. rim, 8.1 cm.; d. base, 4.2 cm. Pl. 63 b (1/3). Fig. 279 a.

Group E: bowl tables, bowl stands, and ring stands:

Type E-XXI a: bowl table, model; 1 example:

14-1-73: BrW; lower part (stand) with bowl broken off beyond the top of the stand; h. 4.2+ cm.; d. top as preserved, 5.5 cm.; d. base, 5.8 cm. Pl. 63 b (2/5). Fig. 297 a.

SUMMARY: Pottery vessels of identified types:

Group A: type II b, 1; total 1 example.

Group B: type XVII, 12; LIV, 1; LIX, 1; total 14 jars.

Group C: type LXI, 4; total 4 examples.

Group D: type LXXIII, 1; LXXIX, 14 models; total 15 examples.

Group E: type XXI a, 1; total 1 example.

Sum Total: pottery vessels and models, 35 examples; total of 8 types.

Other Objects:

14-1-84: copper; wide shallow dish or cover, round-bottomed; h. ca. 3.5 cm.; d. ca. 12.5 cm. Photo. C 5580. Fig. 297 a.

Later Constructions: G 4531: in the middle of the street at north end are two unfinished shafts indicating a small mastaba.

G 4630: row 3, line 6:

See Map 6 and Figs. 107 (chapel), 298 (shaft), 299 (objects)

See Pls. 61 a-e; 63 c-h.

Excavated: shaft, Jan. 2-10; street, Jan. 10-16, 1914.

Owner: Meduw-nefer, *hry hby hry tp, sš mđst ntr, wbr(?)* priest of Anubis, (*imy*)-*ht wr*; and his son, Ankh-ir-s, *sš pr mđst ntr, wbr(?)* priest of Anubis, (*imy*)-*ht wr*, (*imy*)-*ht intt*.

Mastaba: core type IV-i; not cased; 23.2 × 9.4 m.; area, 218.08 sq. m.; prop. 1/2.37; height, 4.8 m., 3-5 courses preserved. G 4631 built against east face of core, north of chapel.

Chapel: exterior c.b. chapel of type (1 c); two rooms and open court (rubble walls):

(a) N-S room with west wall of c.b. built over lower courses of retaining wall of core; 3.9 × 1.3 m.; area, 5.07 sq. m.; prop. 1/3.0; with two white limestone stelae set in west wall (removed by Schiaparelli, both in Cairo); southern stela in name of Meduw-nefer and northern stela in name of his son, Ankh-ir-s; entered from east from (b), by doorway in north end of east wall.

(b) square vestibule room with one-column basis in middle; 3.65 × 3.35 m.; area, 12.23 sq. m.; column basis of white limestone, d. 0.625 m.; with bevelled margin and flat top: on the flat top an incised circle marks the place of a wooden column, 0.45 m. in diam.; this room was probably roofed with a flat wooden roof; chamber (a) may have been roofed with leaning course c.b. vault; entered from south, from embrasure in south wall of (b); doorway to (a), in north end of west wall; doorway to later corridor (d) of G 4631, in east end of north wall.

(c) open court south of chapel bounded on east by c.b. wall but on west and south by rubble wall; north side formed by c.b. south wall of rooms (a), (b); 2.7 × 5.2 m.; area, 14.04 sq. m.; entered from east by doorway in south end of east wall; embrasure with doorway to (b) in middle of north wall; a column basis found in west side of court suggests that this court was pillared hall.

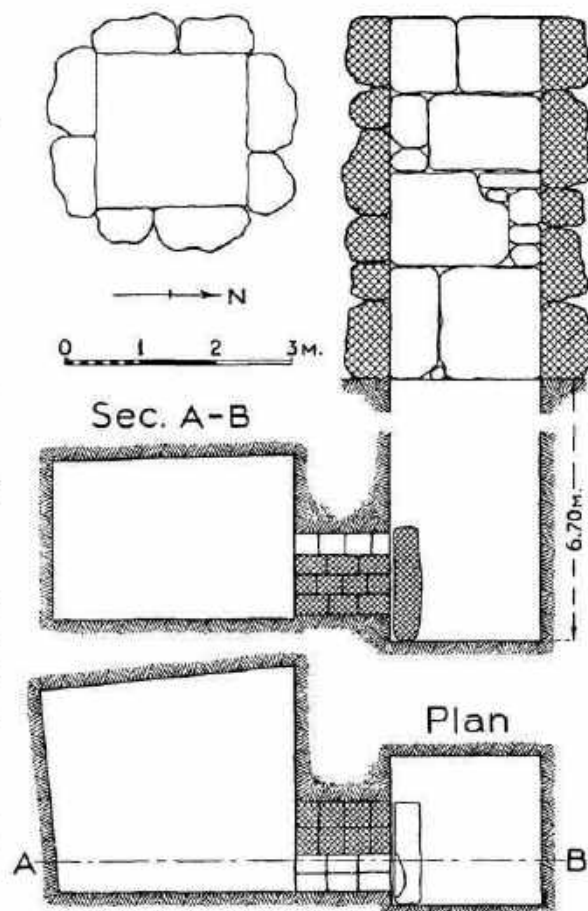


Fig. 298. G 4630 A

Total area, (a), (b), 17.3 sq. m.

Total area, (a)-(c), 31.34 sq. m.

Decoration of Chapel: two monolithic stelae:

South Stela: h. 2.68 m.; width, 1.36 m.; monolithic framed *ka*-door with broad frame panel on each side: in sunk relief with incised inscriptions.

Architrave: horizontal line with signs facing to right: badly damaged: titles and name.

Tablet: man and wife seated on one chair at table of bread; ideographic list under table with linen and ointment on right and bread and beer on left; above bread small compartment list in two horizontal lines and four vertical lines: (*st* *mw*, *sntr* *ht*, *wnhw*, *hwt*, *st*-*hb*, *hkmw*, *hwt.t* *cs*, *hwt.t* *thmw*); under compartment list a row of pictured offerings (ewer and basin, *r*-goose, *t*-goose, *st*-goose, *s*-goose, *mnwt*); on right of table, man standing with *hry-hb* sash, facing to left, labelled *irt n-f dbht-htp rc nb*, (2) in *st-f cnh-ir-s*; over head of seated man, *hry-hb* Meduw-nefer; over woman's head, *hmt-f rht nswt Nb-hs*.

Tablet-flange on left; standing woman facing to right, *hmt-f rht nswt Tntt*.

Tablet-flange on right: two figures one above the other; (1) man standing facing to left holding up two strips of linen: *st-f Snb*; (2) standing man facing to left holding live goose in arms: *st-f Ks-ir-f*.

Crossbar: horizontal line, signs facing to right, *st-f smsw cnh-ir-s dd-f* (facing to left) *ink ir nn n it-i*.

Drum: *hry-hb Mdw-nfr*.

Back of inner niche: Meduw-nefer, standing facing to right; with staff and wand; short wig, chin beard, panther skin; *hry-hb Mdw-nfr*.

Back of outer niche, on left; on right side vertical line of inscription: *st-f smsw, hry-hb, cnh-ir-s msw-f nw dt* on the left of this line is a vertical row of three standing figures; (1) man standing with arms hanging and papyrus roll in right hand, labelled *st-f smsw, hry-hb, Mdw-nfr*; (2) man censuring, labelled *ss pr mdst ntr Yti*; (3) man with live crane, labelled *ss pr mdst ntr Shntyw*.

Back of outer niche, on right: on left vertical line, *hry-hb hry-tp, ss mdst ntr Mdw-nfr msw-f nw dt*; on right vertical row of three figures, (1) holding up three cyl. jars, *ss pr mdst ntr Tyw*, (2) holding up ewer and basin, *ss pr mdst ntr Htp*, (3) holding up live bird, *ss pr mdst ntr Spss-nswt*.

Frame panel on left: vertical line of inscription; *di nswt htp krs m imnt nfrt irw nfr wrt hr ntr c hry-hb wbs(?)* priest of Anubis *Mdw-nfr*.

Frame panel on right: vertical line, *di Inpw htp hnty sh ntr krs m hr-ntr m smyt imntt hry-hb ss mdst ntr Mdw-nfr*.

North Stela: Cairo Museum, 57189; 1.58 m. high and 0.63 m. wide, a single stone, consisting of crossbar, inner niche with drum and backs of outer niche: probably complete, a small subsidiary niche: in sunk relief with incised inscriptions.

Crossbar: *ss pr mdst ntr, wbs(?)* priest of Anubis, (*imy*)-*ht wr*, (*imy*)-*ht tntt* (cow) *cnh-ir-s*; (2) second line, in *st-f smsw hry-hb Mdw-nfr ir n-f nw*.

Drum and inner niche not decorated.

Backs of outer niche: on each side two vertical lines of inscription with standing figure below (with staff and wand, full wig and panther skin); (1) *di nswt htp Inpw hnty sh ntr krs m imnt irw nfr wrt* (2) in *st-f hry-hb Mdw-nfr ir n-f sk sw krs m imnt ss pr mdst ntr cnh-ir-s*.

Shaft G 4630 A: sole shaft; 2.05 × 2.0 m.; -6.7 m. in rock; lined above with massive masonry 4.8 m.; 4 courses.

Chamber: type 3 am; on S; 3.25 × 2.85 m.; h. 2.13 m.; area, 9.26 sq. m.; capacity, 19.72 cu. m.

Passage: 1.27 × 1.2 m. and 1.12 m. high; step down from floor of passage to floor of chamber, 0.6 m.

Blocking: interior blocking of white masonry set in plaster; penetrated at left upper corner by a hole 50 × 30 cm.; outside a portcullis slab; with left hand upper corner broken off to give access to interior blocking.

Coffin: frags. of decayed wooden coffin.

Burial: along west side mixed with frags. of wood, a disturbed body in half-contracted position: wrapped in linen: limbs wrapped separately.

No canopic pit.

Objects, found in thieves' debris partly in bottom of shaft and partly in chamber.

4-1-12, 13: flints, found in shaft; round-ended razor blade with both ends worked; one perfect, length, 10.8 m. and

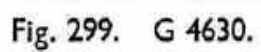


Fig. 299. G 4630.

width of 2.8 cm. (thickness, 1.1 cm.); the other was a frag. of a similar blade, length, 5+ cm.; w. 1.5 cm. Photos. C 5558, 5595 (1/2, 4). Fig. 299.

Pottery:

Group A: round-bottomed or pointed jars:

Type A II-b: large wine jars; 5 examples:

14-1-11: WSR; nearly complete; h. 38 cm.; d. rim, 9.4 cm.; d. neck, 8.2 cm.; d. body, 20.6 cm. Pl. 63 c.

14-1-15: WSR; incomplete; h. 37.5 cm.; d. rim, 9 cm.; d. neck, 6.3 cm.; d. body, 25 cm.

14-1-16: RBrW; frags.

14-1-18: WSR; h. 36 cm.; d. rim, 12.0 cm.; d. neck, 11 cm.; d. body, 22.7 cm. Photo. C 5544. Fig. 299.

14-1-20: WSR; (greenish); nearly complete; h. 43 cm.; d. body, 22.5 cm. Photo. C 5544. Fig. 299.

Type A VI a: ovoid jar with neck and roll rim; 1 example:

14-1-23: RW, wet smoothed; h. 14 cm.; d. rim, 5.4 cm.; d. neck, 5.0 cm.; d. body, 9.6 cm. Pl. 63 g (2/2). Fig. 299.

Group B: flat-bottomed jars:

Type B-XVII a: ovoid jar with short neck and roll rim; 1 example:

14-1-26: RBrW; nearly complete; h. 18.8 cm.; d. rim, 7.4 cm.; d. neck, 6.4 cm.; d. body, 11.4 cm.; d. base, 2.4 cm. Pl. 63 g (2/1). Fig. 299.

Type B-XVII b: shoulder jar with short neck and roll rim; 3 examples (1 found in chamber and 2 found in shaft):

14-1-8: RBrW, wet smoothed; found in chamber; h. 10.0 cm.; d. rim, 5.2 cm.; d. neck, 4.6 cm.; d. shoulder, 7.6 cm.; d. base, 2.2 cm. Pl. 63 g (2/3). Fig. 299.

14-1-19: RBrW; nearly complete; h. 9.0 cm.; d. rim, 6.0 cm.; d. neck, 5.4 cm.; d. shoulder, 7.8 cm.; d. base, 2.5 cm. Pl. 63 g (1/2). Fig. 299.

14-1-22: RBrW; nearly complete; h. 10.3 cm.; d. rim, 6.0 cm.; d. neck, 5.2 cm.; d. shoulder, 7.6 cm.; d. base, 2.2 cm. Pl. 63 g (1/3). Fig. 299.

Type B-LIV: two-handled oil jar; 2 examples; 1 each from shaft and chamber:

14-1-10: special ware, cream slip; nearly complete; from chamber; h. 36 cm.; d. rim, 6.4 cm.; d. neck, 5.0 cm.; d. body, 19.8 cm.; d. base, 10.8 cm.; w. with handles, 26.6 cm. pot mark on shoulder. Pl. 63 d. Fig. 299.

14-1-14: special ware, cream slip; nearly complete; from shaft; h. 41 cm.; d. body, 23 cm.; pot marks on shoulder. Photo. C 5547.

Type B-XLIX b: degenerate model jar of shoulder or barrel form: 1 example:

14-1-21: (shaft); BrW; h. 5.5 cm.; d. top, 4.6 cm.; d. rim, 5.0 cm.; d. body, 4.8 cm.; d. base, 3.2 cm. Pl. 63 g (1/1). Fig. 299.

Group C: round-bottomed basins and bowls:

Type C-XXXI a (1): with low recurved rim; 1 example:

14-1-2 (in shaft): RBrW burnished; incomplete; h. 11.5 cm.; d. rim, 19.2 cm.; d. body, 22 cm. Photo. C 5516 (2/1). Fig. 299.

Type C-XXXII a (1): with high recurved rim; 7 examples; all from shaft:

14-1-1: RP: 2 examples; incomplete; h. 8.0 cm.; d. rim, 24 cm.; d. body, 23.5 cm. Photo. C 5515 (1/1-2). Fig. 299.

14-1-3: RBrW burnished; incomplete; h. 8.1 cm.; d. rim, 13.8 cm.; d. body, 16 cm. Photo. C 5515 (1/2). Fig. 299.

14-1-4: RP: incomplete; 2 examples; h. 8.7 cm.; d. rim, 15.8 cm.; d. body, 17.0 cm. Photo. C 5516 (1/1-2).

14-1-5: RBrW burnished; incomplete; h. 10.2 cm.; d. rim, 19.6 cm.; d. body, 21 cm. Photo. C 5515 (2/2).

14-1-16: RbRW: burnished: incomplete: h. 8.8 cm.; d. rim, 24.4 cm.; d. body, 25.2 cm. Photo C 5516 (2/2).

Group D: flat-bottomed basins and bowls:

Type D: flat-bottomed basins and bowls:

Type D-XXXV a: basin with short tubular spout; 1 example:

14-1-9 (shaft): RW red wash; h. 35.2 cm.; d. rim, 37 cm.; d. max., 42.6 cm.; d. base, 12.0 cm.; w. with spout, 44 cm. Pl. 63 e. Fig. 299.

Type D-LXXIV: pan with upright concave sides; 4 examples; from shaft:

14-1-17: RBrW: h. 2.5 cm.; d. rim, 8 cm.; d. base, 7.2 cm. Pl. 63 h (2/1). Fig. 299.

14-1-25: BrW: frags. of 3 about size of 14-1-17. Pl. 63 h (2/2-4).

Type D-LXXV: flaring bowl with internal moulding: 1 example:

14-1-7 (chamber): BrW, wet smoothed; nearly complete; h. 5.8 cm.; d. max. 20.0 cm.; d. base, 4.0 cm. Pl. 63 f, Fig. 299.

Type D-LXXIX c (2); model basins; 5 examples from shaft:

14-1-24: RBrW; h. 1.9-3.5 cm.; d. 7.5-9.5 cm.; (a) h. 2.8 cm.; d. max., 8.6 cm.; d. base, 4.0 cm. Pl. 63 h (1/1-5). Fig. 299.

SUMMARY OF POTTERY VESSELS:

Group A: type II b, 5; VI, 1; total jars, 6 examples.

Group B: type XVII, 4; LIV, 2; XLIX, 1; total 7 flat-bottomed jars.

Group C: type XXXI, 1; XXXII, 7; total 8 round-bottomed bowls.

Group D: type XXXV, 1; LXXIV, 4; LXXV, 1, LXXIX, 5; total 11.

Sum total: 32 vessels and models; total types 11.

Later Constructions:

G 4631: large mastaba filling the street between G 4630 and G 4730 with its chapel opening into that of G 4630; obviously an addition to G 4630: will therefore be described below.

G 4632, 4633, 4634: composite mastabas filling the avenue between G 4630 and G 4640.

G 4631: addition to the front of G 4630:

See Map 6 and Figs. 300 (shaft A), 301 (shaft B), 302 (shaft C), 303 (shaft D), 304 a, b, c (objects shaft B).

See Pls. 61 f, 62 a, 64 a-f.

Excavated: Jan. 4-16, 1914.

Mastaba: type VIII c (1), with north end cased with z-masonry; (7 courses); 18.6 × 7.0 m.; area, 130.2 sq. m.; prop. 1/2.65; h. 3.5 m.

Apparently built around smaller mastaba with stone-built retaining wall which is visible behind collapsed west wall of chapel.

Chapel: interior c.b. corridor chapel of type (5 a); 14.9 × 0.8 m.; area, 11.92 sq. m.; prop. 1/18.63; relation, 1/10.91; in the west wall there appear to have been at least four pairs of niches; from south to north, (1) stela of Nensezerka with subsidiary north niche; (2) two compound niches (northern more shallow); (3) a break in the wall, probably containing the third pair of niches and the south niche of the fourth pair; (4) the subsidiary north niche of the fourth pair; roofed with c.b. leaning course vault; entered from south from room (b) of the exterior c.b. chapel of G 4630.

Decoration of Stela of Nensezerka: recess in c.b. wall, lined on each side with white limestone slab and roofed with similar slab; 1.15 × 0.55 m. and 1.28 m. high; monolithic stela set in west end of recess, shallow *ka*-door; in sunk relief with incised inscriptions.

Architrave (roofing slab): *di nswt htp Inpw htp hrst m imnt rht nswt, nbt imsh hr ntr c Nn-sdr-ks.*

Frame panel on left: *rht nswt, hm ntr Ht-hr, hm ntr N-t, nbt imsh Nn-sdr-ks.*

Frame panel on right: *hry-hb, wbs(?)* priest of Inpw, (*imy*)-*ht wr cnh-tr-s dd-f imshwt pw.*

Back wall: painted to imitate red granite.

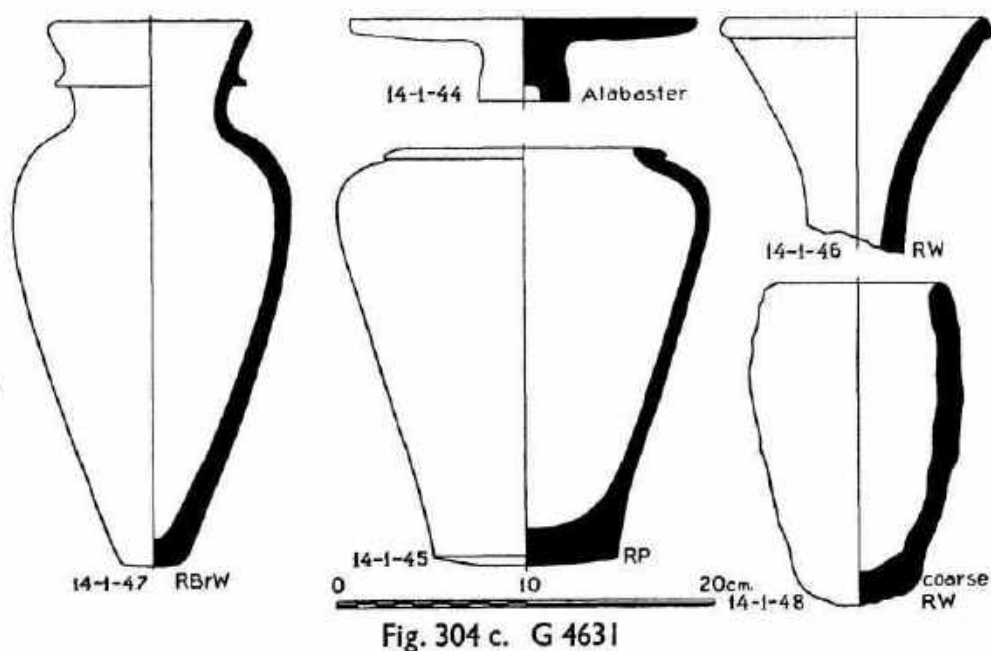
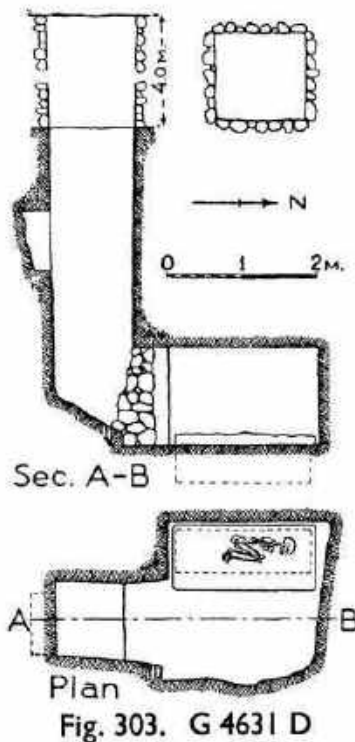
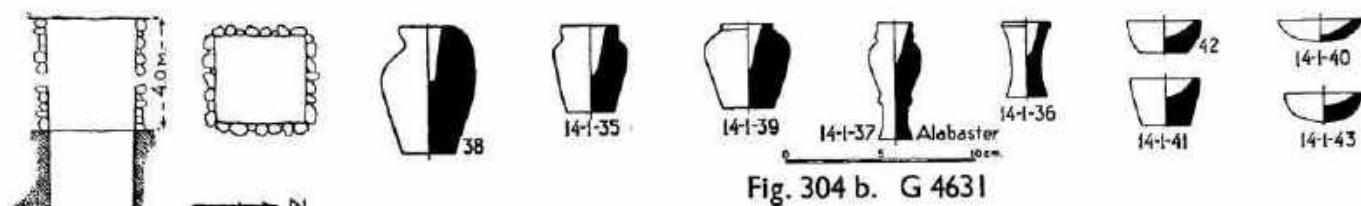
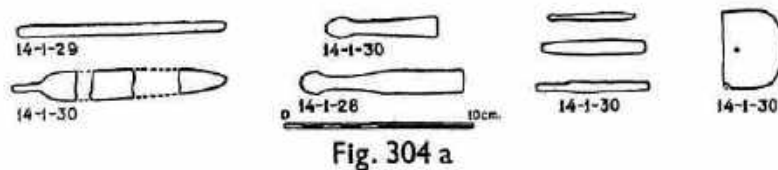
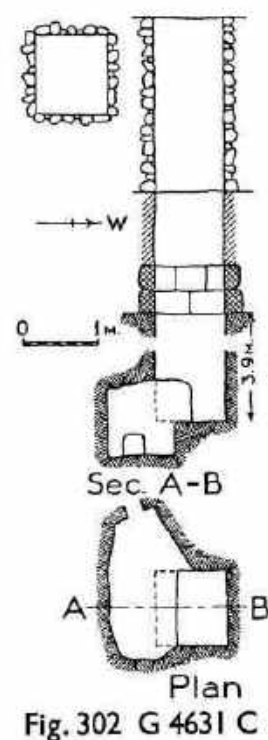
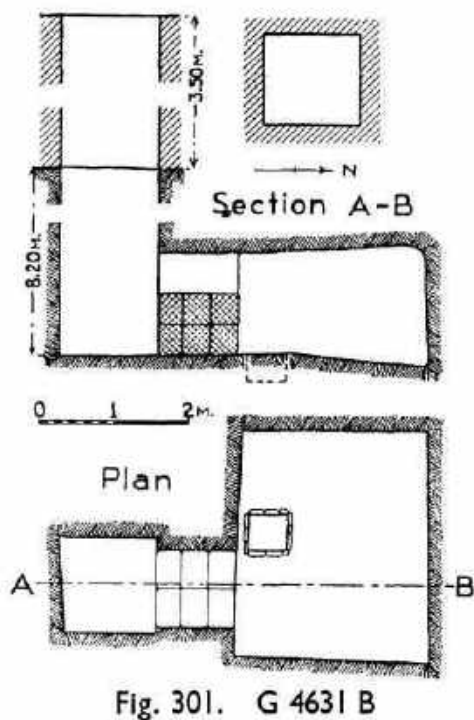
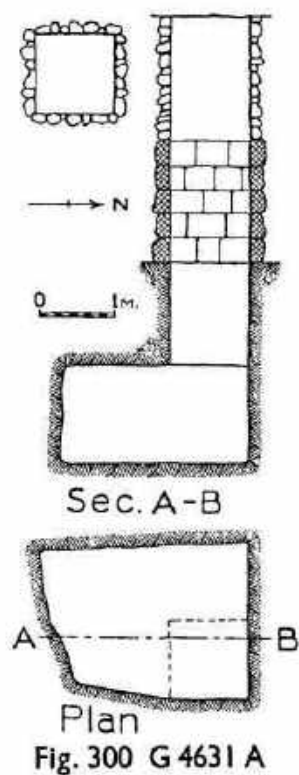
Tablet: woman seated facing to right at table of bread; lappet wig and long tunic; both hands half extended to table; under table small ideographic list, beer on left and bread on right; no short list above: across the top from right to left, *rht nswt Nn-sdr-ks.*

Rest of *ka*-door, not decorated.

Shafts in G 4631: 5 shafts, A-H; in the N-S axis from south to north, shafts, H, E, C, A, and B; between medial axis and east face of mastaba (west wall of chapel), from south to north, shafts, G, F, D; chief shaft is B at north end of medial axis.

Shaft G 4631 A: in medial axis south of B; 1.05 × 1.05 m.; -2.7 m. in rock; lined above with masonry (1.6 m., 5 courses) and above the masonry with rubble (1.65 m.) with total height of 3.25 m.

Chamber: type 6 a (2) with extension eastwards south of shaft; on W; 2.7 × 0.975 m. and 1.3 m. high; area, 2.63 sq. m.; capacity, 3.41 cu. m.; eastward extension, about 1.3 × 1.0 m. and 1.3 m. high; area, 1.3 sq. m.; capacity, 1.69 cu. m.



Total area, 3.93 sq. m.: total capacity, 5.1 cu. m.

Found completely plundered.

Shaft B: chief shaft at north end of medial axis; 1.28×1.25 m.; -8.2 m. in rock; lined above with c.b., 3.5 m.; 14 courses.

Chamber: type 4 a (4); on north; 2.52×3.06 m. and 1.35 m. high; area, 7.71 sq. m.; capacity, 10.4 cu. m.

Passage: 1.08×1.03 m. and 1.35 m. high; roof slopes up to north end of chamber.

Blocking: interior blocking of white limestone and plaster, type II b (1).

Coffin: frags. of decayed wooden coffin.

Burial: scattered skull and bones of skeleton.

Canopic pit: in south side of chamber, west of doorway; sunk in rock and lined with small masonry; 0.53×0.5 m. and 0.35 m. deep.

Objects: found in thieves' debris in chamber.

Copper model tools: 19 models:

14-1-28: copper; model adze; length, 6.6 cm.; w. edge 0.8 cm.; w. with round end, 0.6 cm. Pl. 64 f (1/1). Fig. 304 a.

14-1-29: copper; model drill; length 11.0 cm.; d. haft, 0.3 cm. Photo. C 5558 (bottom). Fig. 304 a.

14-1-30: copper; frags. identified as 3 axe-heads, 1 adze, 2 knife blades with tang, 4 drills, 6 chisels. Pl. 64 f, Fig. 304 a.

Alabaster: models of vessels:

Type S-I d: cyl. jar with concave sides; 6 examples:

14-1-36: slab.; h. 3.8-4.6 cm.; d. 2.5-2.9 cm.; (a) h., 4 cm.; d. rim, 2.6 cm.; d. min. 1.55 cm.; d. base, 2.1 cm. Pl. 64 a (1/2). Fig. 304 b.

Type V-a: shoulder jar with roll rim; 6 examples:

14-1-35: alab.; 4 examples; h. 4.6-5.7 cm.; d. 3.5-4.5 cm.; (a) h. 4.65 cm.; d. rim, 2.9 cm.; d. shoulder, 3.8 cm.; d. base, 2.5 cm. Pl. 64 a (2/1). Fig. 304 b.

14-1-39: alab.; 2 examples; (a) h. 4.4 cm.; d. rim, 2.8 cm.; d. shoulder, 4.4 cm.; d. base, 2.7 cm.; (b) h. 4 cm.; d. shoulder, 4.2 cm. Pl. 64 a (2/2). Fig. 304 b.

Type S-XIV b: model one-handled jug; 1 example:

14-1-38: alab.; h. 6.6 cm.; d. rim, 2.8 cm.; d. neck, 2.3 cm.; d. body, 4.9 cm.; d. base, 2.75 cm.; w. with unpierced handle, 4.9 cm. Pl. 64 a (1/3). Fig. 304 b.

Type S-XVI b: model collar jar on ring stand (one piece); 2 examples:

14-1-37: alab.; 2 examples; h. 6.3 cm.; h. above ringstand, 3.9 cm.; d. top, 1.8 cm.; d. collar, 2.0 cm.; d. body, 2.7 cm.; d. base, 1.9 cm. Pl. 64 a (1/1). Fig. 304 b.

Type S-IX a: shallow bowl with round bottom, plain rim; 25 examples:

14-1-40: alab.; 25 examples; h. 1.2 cm.; d. 3.6-5.8 cm.; (a) h. 1.2 cm.; d. 4.5 cm. Pl. 64 a (2/3). Fig. 304 b.

Type S-IX b: deeper model bowls with round bottom; 21 examples:

14-1-43: alab.; 21 models; h. 1.5-2.1 cm.; d. 3.5-4.6 cm.; (a) h. 1.6 cm.; d. 4.0 cm. Pl. 64 a (2/5). Fig. 304 b.

Type S-X a: model flat-bottomed basins with straight sides; 11 examples:

14-1-41: alab.; 11 models; h. 2.4-2.8 cm.; d. 3.4-4.5 cm.; (a) h. 2.5 cm.; d. rim, 3.7 cm.; d. base, 2.6 cm. Pl. 64 a (2/4). Fig. 304 b.

Type S-X b: model of basin with contracted mouth; 9 examples:

14-1-42: alab.; 9 models; h. 1.2-1.8 cm.; d. 3.1-4.7 cm.; (a) h. 1.7 cm.; d. max. 4.0 cm.; d. base, 2.4 cm. Pl. 64 a (2/4). Fig. 304 b.

Type S-XII b: model of flat-topped circular table; 1 example:

14-1-44: alab.; in frags. incomplete; h. 4.3 cm.; d. top, 17.2 cm.; d. base, 4.8 cm. Pl. 64 d, Fig. 304 c.

SUMMARY: alabaster models:

Jars: type I, 6; type V, 6; XIV b, 1; XVI, 2; total 15 jars.

Round-bottomed bowls: type IX, 46 models.

Flat-bottomed basins: type X, 20 examples.

Total of bowls and basins, 66 models.

Circular table: 1 example.

Sum total of alab. models, 82 models.

Pottery:

Group A: round-bottomed or pointed jars.

Type A-IV e: crude jar without neck or rim; 1 example.

14-1-48: coarse RW; degenerate form; h. 17 cm.; d. top, 8.6 cm.; d. max. 11.1 cm. Fig. 304 c.

Group B-LV: flat-bottomed jars and models:

14-1-45: RP; 4 examples (2 complete); h. 22 cm.; d. rim, 13 cm.; d. shoulder, 19.4 cm.; d. base, 9.8 cm. Pl. 64 c, Fig. 304 c.

Type B-LVI a: collar jar; with narrow base; 1 example.

14-1-47: RBrW, red wash; perfect; h. 28.7 cm.; d. top, 10.4 cm.; d. collar, 10.2 cm.; d. body, 14.5 cm.; d. base, 3.4 cm. Pl. 64 b, Fig. 304 c.

Group C and D: not represented; see alab. models.

Group E: bowl tables, bowl stands and ring stands:

Type E-XXII a: bowl stand; lower part of one example:

14-1-46: RW, wet smoothed; lower part of bowl stand; h. 12.4 cm.; probably 60-70 cm. high; d. top of frags. 5.0 cm. (middle of stand); d. base, 13.8 cm. Fig. 304 c.

Vessels of unidentified types:

14-1-48 b: few fragments: (1) RP jar with short neck, type A-VI or B-XVII; (2) RP bowls with recurved rim and round bottom, type XXXI or XXXII.

SUMMARY: of pottery vessels of identified types:

Group A: type A-IV, 1; total 1 jar.

Group B: type LV, 4; LVI, 1; total 5 flat-bottomed jars.

Group E: type XXXI, 1; total, 1 example.

Sum total, 7 vessels; in 4 types; to be increased by unidentified frags. to 9 vessels and 6 types.

Miscellaneous Objects:

14-1-31: gold; a few frags. of gold leaf; in shaft C in upper debris were found 2 other frags. of gold leaf, probably from shaft B.

14-1-32: blue glazed faience; elements of a necklace with pendants and ring beads; other beads found in the upper debris of shafts A and C, probably came from this necklace.

14-1-33: wood; 2 frags. of spoon.

14-1-34: mud (sealing clay); one perfect box sealing with print of wood and string on under side; d. c. 7.5 cm.; impressed with 6-line cylinder seal; containing the Horus name *Ir-mrt* in frame (= Weserkaf); the Horus names face to left and the intervening vertical lines facing to right are illegible. Photos. C 5493-4, C5793, C 6207 (Pl. 64 e).

Shaft G 4631 C: in axis mouth of A; 1.05 × 0.92 m.; -3.9 m. in rock; lined above with two courses of masonry (0.61 m.), then c.b. (1.0 m.), and above rubble (2.3 m.); total lining, 3.91 m.

Chamber: type 6 a (2); on east; slightly irregular; 1.95 × 0.65 m. and 0.92 m. high; area, 1.26 sq. m.; capacity, 1.15 cu. m.; step down from bottom of shaft to floor of chamber, 0.46 m. in south end break into chamber of east.

Completely plundered.

Objects: faience beads, 14-1-49, assigned to shaft B with 2 frags. of gold leaf.

Shaft G 4631 D: in eastern part, east of shaft C; 1.2 × 1.15 m.; -4.0 m. in rock; lined above with rubble, 4.0 m.; bottom of shaft slopes sharply down from south to north to floor of chamber; two chambers.

Chamber (1): at 1.7 m. in rock; type 6 d; on south; 0.3 × 0.8 m. and 0.8 m. high; area, 0.24 sq. m.; capacity, 0.19 cu. m.; completely plundered.

Chamber (2): at bottom; type 4 a (2), nearly square; on north; 2.05 × 2.15 m. and 1.3 m. high; area, 4.4 sq. m.; capacity, 5.72 cu. m.

Blocking: interior wall of rough masonry bound with plaster; side on shaft, slightly sloping; type III c (1); intact.

Passage: 0.55×1.05 m. and 1.3 m. high.

Burial pit: along west wall; 1.80×0.57 m. and 0.50 m. deep; covered with single slab, 1.90×0.85 m. and 0.15 m. thick.

Burial: Tightly contracted on left side.

Objects: 7 faience ring beads, assigned to shaft B.

Shaft G 4631 E: in axis, south of C; 0.99×0.96 m.; -7.85 m. in rock; lined above with rubble, 2.35 m.

Chamber: type 6 b (?): on west; the chamber had been cut in red gravel in cracked rock and the outlines had been obscured by the decay of the gravel and the fall of rock: the height of the chamber was about 1.3 m.

Either unused or completely plundered.

Shaft G 4631 F: in eastern part between D and G; 1.1×1.15 m.; lined with rubble, 2.52 m.; no chamber; type 7 x. Plundered.

Shaft G 4631 G: in eastern part at south end: 1.1×1.1 m.; lined with rubble, 2.6 m.; no chamber; type 7 x. Plundered.

Shaft G 4631 H: in south end of mastaba west of G; 1.1×1.1 m.; lined with rubble, 1.65 m.; no chamber; type 7 x. Plundered.

G 4730: row 3, line 7.

See Map 6.

See Pl. 62 b.

Excavated: Dec. 25, 1913, to Feb. 28, 1914.

Mastaba: core type IV-i, not cased; 22.9×10.0 m.; area 229.0 sq. m.; prop. $1/2.29$; h. 4.75 m.; 4 courses.

Chapel: no trace of chapel; probably none ever built.

Shaft G 4730 A: sole shaft (one-shaft mastaba); 2.07×2.07 m.; -3.05 m. in rock; lined above with masonry, 4.75 m.; 6 courses; no chamber, type 7 x, unused.

Later Constructions:

Against the south end of the core is built a medium-sized stone mastaba (G 4721) with chapel of type (7 b): in chief shaft a sealing of Nefer-f-ra (4th king of Dyn. V).

G 4731 and G 4732, two small mastabas built against the south end of G 4740.

G 4733: a long mastaba in the street east of G 4730, built against the back of G 4830 extending southwards to close the avenue between G 4720 and G 4830 and to inclose the NW corner of G 4820; a stone mastaba with an area of 142.15 sq. m.; chapel type (5 ax); in shaft E was a sealing of Nefer-f-ra.

G 4734: an addition built against the north end of G 4733.

G 4830: row 3, line 8.

See Map 6 and Fig. 305 (shaft A).

See Pl. 62 c.

Excavated: February 1-25, 1914.

Mastaba: core type IV-i, not cased; 21.3×8.7 m.; area, 185.31 sq. m.; prop. $1/2.45$; h. 4.2 m.; 4 courses.

Chapel: no trace of a chapel.

Shaft G 4830 A: sole shaft (one-shaft mastaba); 2.07×2.16 m.; -7.3 m. in rock; lined above with massive masonry, 4.2 m.; 6 courses.

Chamber: type 6 b (2) irregular; on south; 1.85×1.45 m. and 0.95 m. high; area, 2.52 sq. m.; irregular, capacity, 2.39 cu. m.

Found open and empty: not even a potsherd was found in shaft or chamber: perhaps unused (see G 4730 A).

Later Constructions:

G 4831: small mastaba in avenue between G 4830 and G 4840.

G 4832, G 4833: in street east of core, from north to south; small mastabas.

G 4821, G 4822: nearly destroyed stone mastabas in the avenue between G 4820 and G 4830.

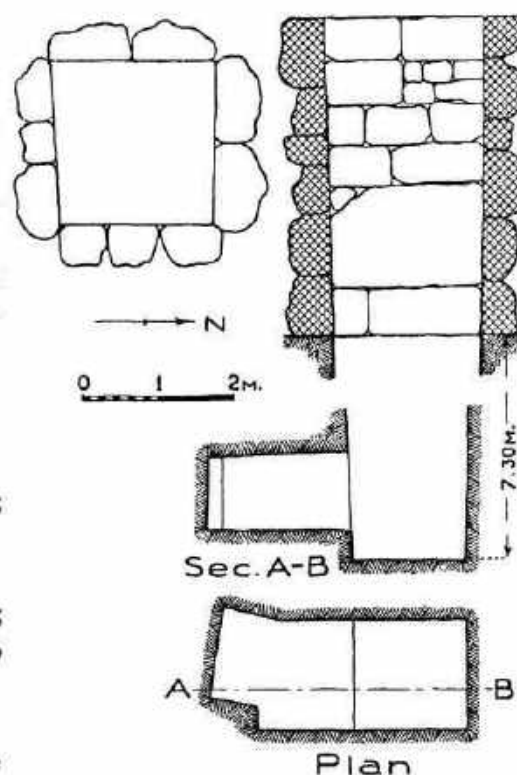


Fig. 305. G 4830 A

G 4860: row 6, line 8.

See Junker, *Giza I*, pp. 242-248.

Owner: slab-stela with name broken off, *sš mdjt ntr, hry-hb*.

Mastaba: core type II a, not cased; 25×11.5 m.; area, 287.5 sq. m.; prop. $1/2:17$; h. 4.5 m.

Chapel: slab-stela found in face of core near south end indicating a c.b. chapel of type (1 a?); destroyed by intrusive instructions?

Shafts in G 4860: two shafts; chief shaft A north of middle and shaft B intruded south of it.

Shaft G 4860 A: 2.1×2.05 m. contracting to 1.95×1.95 m.; -8.5 m. in rock; lined above with small courses of drab limestone, 4.5 m.; 11 courses.

Chamber: type 4 a (2); first begun on south and changed to west on account of bad rock (Junker); 3.23×2.22 m. and 1.82 m. high; area, 7.16 sq. m.; capacity, 13.58 cu. m.

Passage: 1.5×0.8 and 1.82 m. high.

Blocking: interior masonry of type II b (1).

Canopic recess: at east end of south wall; 0.6×0.66 m.

Objects: found in thieves' debris:

(1) tub ware: small tub of type D-LXXI; h. 42 cm.; d. base, 22 cm.

(2) RP (?); incomplete jar of type B XVIII; h. 22.8 cm.; d. rim, 8.8 cm.; d. max. 14.4 cm.; d. base, 7.6 cm.

(3) special ware; frags. of two-handled jar or one-handled jug; type B-LIII or B-LIV.

(4) RP; shallow dish with internal moulding (?); type C LXV.

(5) two small model jars; shoulder jars of different forms.

Objects found in debris east of mastaba and probably thrown out of A:

(1) tub ware: frags. large tub; type D-LXXI a.

(2) pottery models: see Junker, *Giza I*, fig. 15; mostly degenerate examples of type B-LV, LVI, and LVIII or XLIX. Also model basins of type D-LXXIX.

Shaft G 4860 B: intruded south of A; 1.35×1.25 m.; -3.25 m. in rock; lined above with rubble, 4.45 m.

Chamber: type 6 b (4) irregular; on south; long chamber bent askew to avoid bad rock; available floor, 2.0×1.3 m. area, 2.86 sq. m.

Frgs. of wooden coffin; scattered bones; frags. of wooden statuette intrusive (Junker).

Later Constructions: various intrusive mastabas on east.

5. The six mastabas of the fourth addition: G 4320-4820.

G 4320: row 2, line 3.

See Map 6 and Fig. 24 (shaft).

See Pl. 64 g.

Excavated: January 3rd, 13th, 14th, 17th; April 11th-15th, 1914.

Mastaba: core type IV-i, not cased; originally about 23 m. long, but southern end broken down and overbuilt by the small late mastaba G 4311 belonging to Nefer-her-n-ptah with a decorated chapel; size of core as preserved, 21.35×9.6 m.; area, 204.95 sq. m.; prop. $1/2:22$; h. 3.8 m.; 3-7 courses.

Chapel: probably exterior c.b. chapel, now completely destroyed by weathering; in the east face of the core two niches cut in the massive masonry: the large niche is near the north end, at 4.8-5.5 m. from the NE corner; it is a compound niche, 70 cm. wide, reaching in height into the third course: outer recess, 0.7×0.15 m.; inner recess, 0.18×0.10 m.; the second niche, at 3.25 m. south of the large niche, is a small badly weathered niche; the outer recess cannot be measured but the inner recess is 0.10 m. wide and 5 cm. deep; architrave, tablet, and cross bar, about a metre high (in the lowest course); neither of the niches is inscribed.

Shaft G 4320 A: sole shaft but with two burial chambers; 2.05×2.1 m.; lined with massive masonry, 3.8 m.; 5 courses; in SE quarter a smaller shaft cut in rock, 1.65×1.45 m. contracting to 1.4×1.4 m. at bottom; -3.6 m. in rock; two chambers:

Chamber (1): at 1.25 m. in rock; type 6 a (2); on east; 1.6×1.0 m. and 1.05 m. high; area, 1.6 sq. m.; capacity 1.68 cu. m.; found open and empty; remains of rubble blocking.

Chamber (2): at 3.2 m. in rock; type 6 a (2); on west; 1.6 × 1.0 m. and 1.0 m. high; area, 1.6 sq. m.; capacity, 1.6 cu. m.; found open and empty: remains of rubble door blocking.

Later Constructions: G 4321 built against the north end of G 4320, extending nearly to south end of G 4330.

G 4420: row 2, line 4.

See Map 6 and Figs. 307 (shaft A), 308 (inscriptions).

See Pl. 64 h.

Excavated: January 17th, 18th, 29th, 31st; February 1st; March 20th–21st; April 3rd, 5th, 7th–11th, 16th, 18th, 1914.

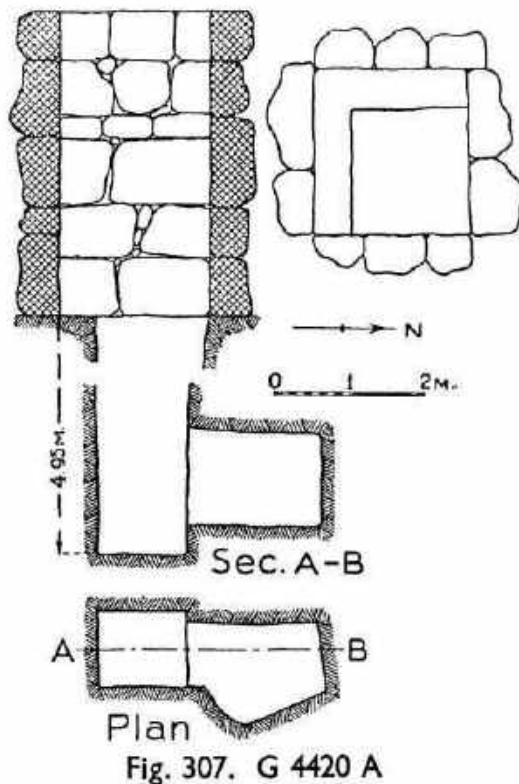


Fig. 307. G 4420 A



G 4420 Inscribed scene on E. face of mastaba



G 4420 Inscription on offering basin

Fig. 308.

Owner: Tetuw, father of *Nfr-šm-kꜣ*; in inscription on east face of core at south end.

Mastaba: core type IV-i, not cased; 23.2 × 9.7 m.; area, 225.04 sq. m.; prop. 1/2.39; h. 4.0 m.; 4–5 courses.

Chapel: the place of the chapel on the south end of the east face is obscured by the small mastaba G 4421; on the core at this place is incised a table scene.

At the north end of the east face of the core is a small exterior rubble room with one niche near middle of west wall; chapel type (1 d); 4.45 × 1.9 m.; area, 8.46 sq. m.; prop. 1/2.34; niche cut in lowest course of core; in front of niche two rectangular offering basins of limestone (one inscribed); entered from east by doorway in north end of east wall.

Table scene: incised on face of core near south end; man and wife seated facing to right at a table of bread; man with left hand on breast and right extended; over his head the name Tetuw; woman with left arm around his shoulders and right hand on his arm; on the right of the table man and wife standing facing to left: man with right hand on breast and left hanging; woman with both arms hanging; behind them a third obliterated figure; above, (1) *šḥd sꜣ pr mꜣt Nfr-šm-kꜣ*, (2) *hmt-f Pr-n-kꜣ*, (3) . . . *Nḏm-lb*. Pl. 64 h, Fig. 308.

Inscription on offering-basin: *rh nswt, imy ht* . . . (axe over lioness) *šḥd pr mꜣt, rh nswt Nfr-šm-kꜣ*.

Shaft G 4420 A: sole shaft; 2.05 × 2.2 m.; lined with massive masonry, 4.0 m., 5 courses; small rock cut shaft in NW corner; 1.50 × 1.65 m.; —4.95 m. in rock; one chamber.

Chamber: type 5 b (2), irregular; on north; 1.83 × 1.2 m. and 1.25 m. high; area, 2.2 sq. m.; capacity, 2.75 cu. m.

Passage: 0.25 × 0.85 m. and 1.3 m. high.

Completely plundered; no bones or potsherds found in debris.

Later Constructions:

G 4421: denuded stone mastaba built against the east face of the core and against the north end of projecting structure of G 4411 (built between G 4410 and G 4420).

G 4422: a small composite mastaba built in three stages and enclosing the exterior rubble chapel of G 4420; nucleus south of rubble chapel, first addition south of nucleus and a second addition north of chapel; undoubtedly the family tomb of Nefer-seshem-ka.

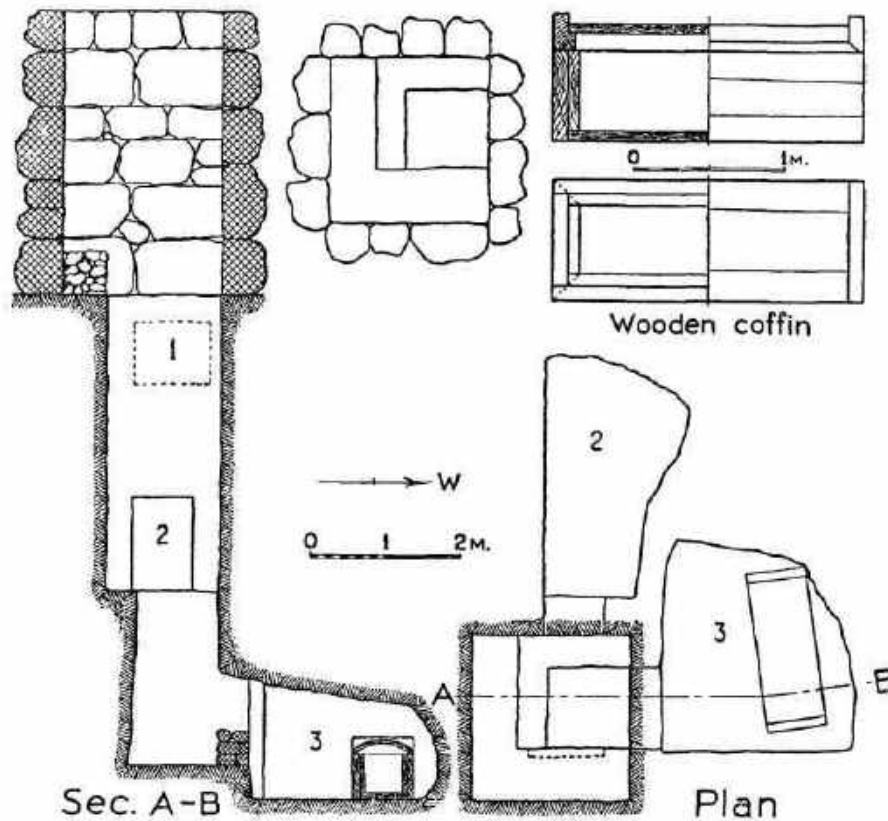


Fig. 309. G 4520 A

G 4423: small stone mastaba built against the north end of G 4420 near the NE corner.

G 4424: built against the north end of G 4420 west of G 4423 with passage 0.9 m. wide between them.

G 4520: row 2, line 5:

See Map 6 and Figs. 204 (false-door), 309 (shaft), 310 (objects).

See Pls. 65 a and b; 66 a-f; 67 a-e; 68 f; 69 a-e.

Excavated: March 17th-31st, April 1st-8th, 19th-24th, 1914.

Owner: Khufuw-ankh, *hnty-š pr r, hšw, rh nšwt*.

Mastaba: core type IV-i, not cased; 22.8×9.9 m.; area, 225.72 sq. m.; prop. $1/2.3$; h. 3.75 m., 3-4 courses.

Chapel: type (4 a) with exterior N-S room; built in a recess broken in the massive core.

(a) N-S offering-room: 2.65×1.3 m.; area, 3.44 sq. m.; prop. $1/2.38$; relation, $1/74.33$; in the west wall at south end a magnificent decorated monolithic stela and a small stela north of it: entered from east at north end of east wall from (b).

(b) contained in an exterior construction of u-masonry, parallel to (a) but set northwards: 5.5×1.5 m.; area, 8.25 sq. m.; entered from east by doorway in north end of east wall; doorway to (a) is at south end of west wall; north of the doorway to (a) a small *ka*-door is cut in the masonry.

Total area, (a)-(b), 11.69 sq. m.

In front of large stela a rectangular offering-stone of white limestone: in front of the small stela in room (b) is a small inscribed offering-basin.

Decoration of Great Stela: in room (a) framed monolithic stela:

Architrave: top of frame; obliterated except for a third at the left end; horizontal line with signs facing to right, . . . *ḥšw Ḥwfw-ḥnh* (det. seated man facing to right).

Tablet: man and wife seated at table of bread opposite each other; man with left hand closed on breast and right extended; wife with both hands extended (lappet wig); under the table ideographic list, with *šš* on

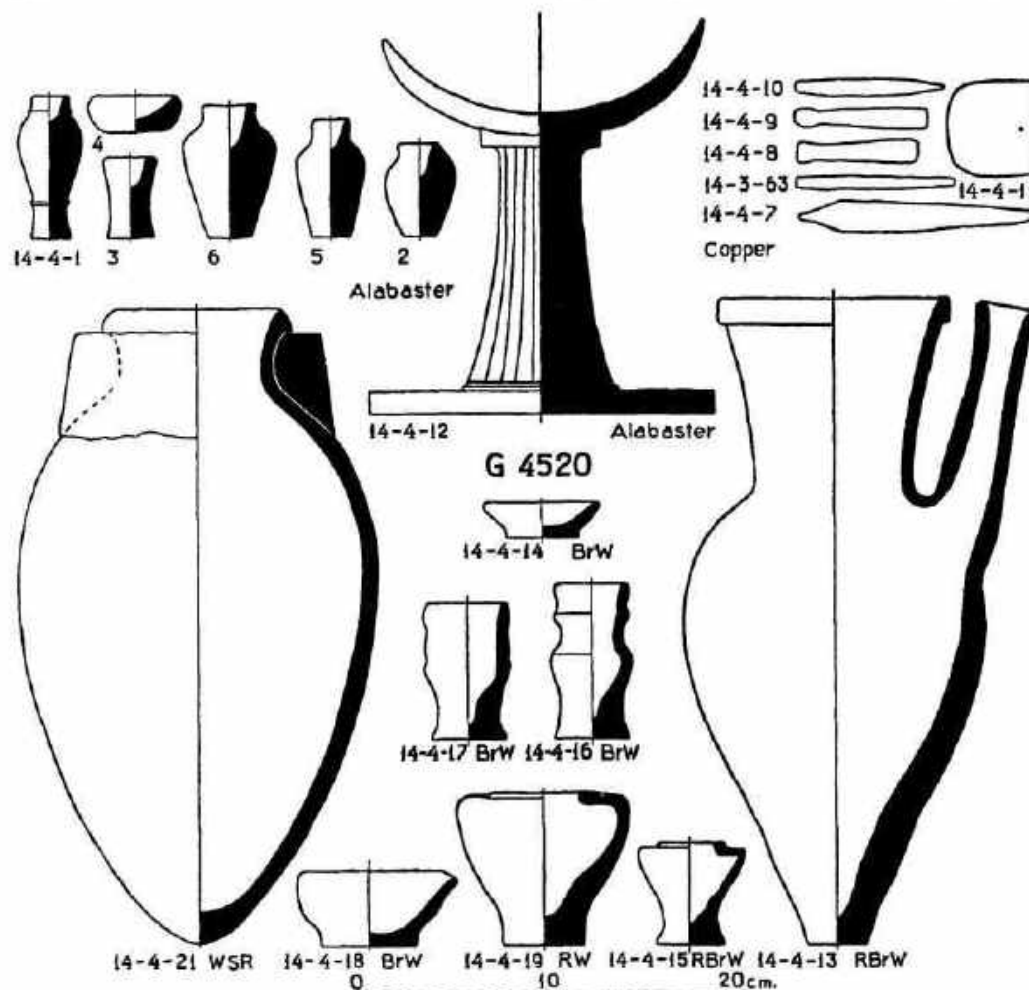


Fig. 310.

left and *mnht* on right; over the table ewer and basin, haunch of beef on platter, trussed goose on platter and ewer and basin; above this line is a small compartment list divided by incised lines into two horizontal lines and five vertical columns (late list); over man, *ḥšw n pr ḥšw Ḥwfw-ḥnh*; over the woman, *ḥt nšwt Dfyt-kj*.

Flanges of tablet: extending to frames on each side.

On left, three men bringing offerings to right: *int prt-hrw in sn-qt*: figures labelled *Ksp*, *Ḥwfw-mry-ntrw*, *Iw-mn-ib* (or *Iw-ib-mn*); carrying (1) meat, (2) and (3) large live birds.

On right flange, three men bringing offerings in to left: *int prt-hrw in hm-kj*; labelled (1) *Ḥc-brw-Ḥwfw* (carrying haunch of meat), (2) . . . *nti* (carrying table of bread and meat), (3) *Šwt-ḥw-f* (carrying live calf or kid).

Crossbar: over inner niche and backs of outer niche; horizontal inscription facing to right; *ḥnty-š pr ḥšw Ḥwfw-ḥnh*.

Drum: *ḥt nšwt Ḥwfw-ḥnh*.

Back of outer niche on left (south): two vertical lines facing to right: (1) *ir r gš nšwt ds-f hr pgj n dšdw*; (2) *šk hm-f mšj-f ḥrt-hrw in r nb*; under both lines, *Ḥwfw-ḥnh* written horizontally; under the name an incised horizontal line; under this main part is a small figure of the father, standing facing in to right; with left

hand holding tie on shoulder and right hand hanging open; wearing short wig, panther skin over robe; over his head three horizontal lines of small signs, facing to right: (1) *it-f rh nswt*, (2) *hnty-s*, (3) *Tw-nswt*.

Back of outer niche on right (north): two vertical lines of inscription, facing in to left: (1) *ir-n n-f hm-f nw r imsh-f hr hm-f*; (2) *sk sw cnh hr rdwy-fy hnty-s pr-r hsw* with the name *Hwfw-cnh* written horizontally beneath both lines; under this inscription is an incised horizontal line; under this main part is a small standing figure of the mother, standing facing in to left, with right hand open on breast and left hand hanging open; lappet wig and tunic; over head three horizontal lines: (1) *mw-f*, (2) *hnty-t-s* (3) *Twpw*.

Frame panel on left (south): large figure of Khufuw-ankh, standing facing to right, with staff and wand; short wig, panther skin over short skirt; naked boy standing between man and staff with left hand on staff and right hanging; labelled *ss-f Mn-kw-r-cnh*; above his head four vertical lines ending in two horizontal lines: (1) *di nswt htp Inpw di hnty sh ntr krs m hr-ntr*, (2) *hnty s pr r, hsw, imy-r hsw pr r*, (3) *imy-r shrew, mry nb-f, mrr nb-f*, (4) *idd iht nbt nfrt n nb-f r nb, imshw hr nb-f, rh nswt*, (5) *shmh ib n nb-f r nb*, (6) *rh nswt Hwfw-cnh*.

Frame panel on right (north): large standing figure of wife; facing in to left; right hand open on breast and left hand hanging open; lappet wig, long tunic, necklace; in front of her smaller figure of daughter in same attitude and attire, labelled vertically over head *sn-dt Tt*; behind the woman stands a small naked girl with finger to her mouth, and small pig-tail; labelled *sst-f Mrt-it-s*. Above the woman's head four vertical lines and one horizontal: (1) *di nswt htp Inpw di hnty sh ntr krs m hr-ntr*, (2) *m smyt imnt-t iswt nfrt wot hr ntr nbt imsh*, (3) *hm ntr Ht-hr nbt nht, hm ntr Nt wpt wswt mht inbw*, (4) *prr-hrw n-s m Dhwtyt m wsg*, (5) *rh nswt Dfit-ki*.

Decoration of small stela (niche) in west wall of room (b): no tablet or architrave; framed simple stela with top and sides of frame: under top of frame, inner niche with drum and the two backs of the outer niche.

Top of frame, or crossbar, with horizontal line of incised signs, facing to right, *di nswt htp Inpw krs m hr-ntr*.

Drum: uninscribed.

Back of outer niche on left (south); nearly obliterated; inscription above *hmt-f Tw(?)pw*.

Back of outer niche on right (north); nearly obliterated; inscription above *hnty-s Tw-nswt*.

Outer frame panel on left (south); obliterated.

Outer frame panel on right (north); vertical line, *hnty-s n pr-r, hsw(?) Hwfw-cnh*.

Offering-stone: found in place in front of great stela; a large slab of white limestone containing in its upper surface a rectangular basin on the left end, in the middle two circular bowl-like depressions and on the right a circular disk in relief; inscribed across the top end of the basin, *imshw hr ntr r*; around the raised disk on the right runs a circular band of inscription, *rh nswt, hsw, hnty-s pr r Hwfw-cnh; hmt-f mrt-f Dfit-ki*. Stone measures 44 × 25 cm. and about 20 cm. high. Pl. 66 b.

Offering-basin found in place in front of small niche in room (b); simple rectangular offering-basin; inscribed on upper ledge down right side and across top, *imshw hr ntr, hsw, hnty-s Hwfw-cnh*.

Serdab: in the west wall between the great stela and the small stela a slot window opens into a small serdab, 0.23 × 0.35 m. and 0.56 m. high; slot opening, 3 cm. high and 5 cm. wide; remains of decayed wooden statuette.

Shaft G 4520 A: sole shaft, north of middle, 2.15 × 2.05 m.; lined with massive masonry, 3.75 m.; 7 courses; in the SW corner a smaller rock-cut shaft, 1.47 × 1.47 m.; — 3.9 m. in rock; at 3.9 m. is a ledge and the shaft descends contracted to 1.03 × 1.1 m. to a total depth of 6.2 m. in rock; 3 chambers.

Chamber (1): at 1.15 m. in rock; type 6 d; on east; 1.0 × 0.1 m. and 0.8 m. high; area 0.10 sq. m.; capacity, 0.08 cu. m.; found completely cleared out.

Chamber (2): at 3.9 m. in rock; type 4 b (1); on south; 3.1 × 1.5 m. and 1.6 m. high; area, 4.65 sq. m.; capacity, 7.44 cu. m.

Passage: 0.57 × 0.8 m. and 1.24 m. high; found completely cleared out.

Chamber (3): at 6.2 m. in rock; type 5 a (1); on west; 2.7 × 2.3 m. and 1.4 m. high; area, 6.21 sq. m.; capacity, 8.69 cu. m.

Passage: 0.35×1.05 m. and 1.2 m. high.

Blocking: partly in and partly out of doorway; rough masonry with sloping face on shaft side mud plastered; type IV c (2); probably intact.

Coffin: wooden *křst* coffin with inner lining of sides and ends of wood; *křst*-coffin, outside, 2.1×0.8 m. and c. 0.6 m. high (height of lid, 18–24 cm.); inner case, inside, 1.72×0.43 m.; thickness of outer case, 8 cm.; thickness of lining, 6 cm.; thickness of floor-boards, 8 cm. See Fig. 309.

Burial: in inner case, a half contracted skeleton (turned over on back) wrapped in linen (limbs separately); linen badly decayed; under head, alabaster head-rest.

Many objects on floor of chamber; see below.

Pl. 66 e (blocking), Pl. 66 f (objects on floor), Pl. 67 a (coffin), Pl. 67 b (body in coffin).

Objects: found in debris in shaft:

14-3-63: copper; model chisel; length, 9.0 cm.; w. 0.9 cm. Pl. 69 e (2/2), Fig. 310.

Objects: found in chamber (3):

14-4-12: alab.; head-rest, one piece, with fluted stem; h. 20.9 cm.; length of base, 18.4 cm.; length of top, 17.1 cm.

Pl. 69 d (found in coffin), Fig. 310.

Alabaster Model Vessels:

Type S-I d: alab.; jar, models; 6 examples:

14-4-3: h. 4.3–4.4 cm.; d. 2.8–3.0 cm. (a) h. 4.2 cm.; d. rim, 2.8 cm.; d. min., 2 cm.; d. base, 2.4 cm. Pl. 68 f (2/3), Fig. 310.

Type S-XIV b: one-handled jug, dummy model; 1 example:

14-4-2: alab.; h. 4.9 cm.; d. top, 2.0 cm.; d. body, 3.6 cm.; d. base, 1.8 cm.; unpierced handle. Pl. 68 f (1/1), Fig. 310.

Type S-XV a: shoulder-jar; 2 examples:

14-4-5: alab.; h. 6.3 cm.; d. neck, 2.0 cm.; d. shoulder, 3.4 cm.; d. base, 2.0 cm. Pl. 68 f (1/3), Fig. 310.

14-4-6: alab.; h. 7.2 cm.; d. neck, 2.8 cm.; d. shoulder 4.8 cm.; d. base, 2.2 cm. Pl. 68 f (2/1), Fig. 310.

Type S-XVI b: collar jar with ring-stand in one piece; 2 examples:

14-4-1: alab.; h. 7.6 cm.; h. ring-stand, 2 cm.; d. top, 2 cm.; d. collar, 2.2 cm.; d. body, 3.4 cm.; d. ring-stand, top, 2.2 cm.; d. base, 2.0 cm.; (b) h. 8.3 cm.; d. 3.6 cm. Pl. 68 f (2/2), Fig. 310.

Type S-X b: model basin with convex sides; 5 examples:

14-4-4: alab.; h. 1.7–2.0 cm.; d. max. 4.8–6.6 cm.; (a) h. 2.2 cm.; d. top, 4.2 cm.; d. max. 4.8 cm.; d. base, 3.0 cm. Pl. 68 f (1/2), Fig. 310.

Sum total of alab. models: 11 jars (4 types) and 5 basins (one type); total, 16 models.

Pottery found in chamber:

Group A: round-bottomed and pointed jars:

Type A-II b: large wine-jar; 2 examples:

14-4-21: WSR, yellow slip; with remains of mud stoppers; h. 33.6 cm.; d. rim, 8.8 cm.; d. neck, 8.2 cm.; d. body, 19.0 cm. Pl. 69 b (1/1), Fig. 310.

14-4-22: WSR, yellowish slip; incomplete; h. 34.4 cm.; d. rim, 10 cm.; d. neck, 8 cm.; d. max. 19.2 cm. Pl. 69 b (1/2).

Group B: flat-bottomed jars:

Type B-LV b-m: models of neckless shoulder-jar; 9 examples:

14-4-15: RBrW; 6 examples; with splay foot; h. 4.5–5.6 cm.; d. 5.1–6.6 cm.; (a) h. 5.4 cm.; d. rim, 3.6 cm.; d. max. 5.8 cm.; d. min. 2.8 cm.; d. base, 3.6 cm. Pl. 69 c (2/2), Fig. 310.

14-4-19: RW, red wash; 3 examples; with splay foot; h. 7.5–8.1 cm.; d. 8.5–8.9 cm.; (a) h. 8.2 cm.; d. rim, 5.2 cm.; d. max. 9.0 cm.; d. min. 4.3 cm.; d. base, 4.2 cm. Pl. 69 c (2/1), Fig. 310.

Type B-LVI a-m: model collar jar with splay foot; 3 examples:

14-4-16: BrW; h. 8.4–8.6 cm.; d. max. 4.3–4.6 cm.; (a) h. 8.3 cm.; d. top, 3.8 cm.; d. collar, 4.0 cm.; d. max. 4.4 cm.; d. min. 3.2 cm.; d. base, 4.0 cm. Pl. 69 c (1/1), Fig. 310.

Type B-LVIII: degenerate model of belted barrel jar with splay foot: 1 example:

14-4-17: BrW; h. 7.4 cm.; d. rim, 4.2 cm.; d. max. 4.6 cm.; d. min. 3.0 cm.; d. base, 4.0 cm. Pl. 69 c (2/3), Fig. 310.

Type B-LIX b: practical jug with tall neck, bulging shoulder, with nearly upright tubular spout, tapering body with narrow flat base; 1 example:

14-4-13: RBrW, red wash; h. 34.3 cm.; d. rim, 12.4 cm.; d. neck at base, 8.0 cm.; d. body, 16 cm.; d. base, 3.2 cm.; w. with spout, 18.6 cm. Pl. 69 a, Fig. 310.

Group C: round-bottomed basins and bowls: no examples.

Group D: flat-bottomed basins and bowls:

Type D-XXXV c: model of basin with contracted mouth and open spout: 1 example:

14-4-18: BrW; h. 4.0 cm.; d. rim, 7.0 cm.; d. max. 7.6 cm.; d. base, 5.0 cm.; w. with spout, 8.4 cm. Pl. 69 c (1/2), Fig. 310.

Type D-LXXIX a: model basin with straight sides and splay foot; 94 examples:

14-4-14: BrW; 94 examples; about 2.0 m. high with diameter of c. 6.5 cm.; (a) h. 1.9 cm.; d. max. 6.4 cm.; d. base, 4.0 cm. Pl. 69 c (1/3), Fig. 310.

SUMMARY OF POTTERY:

Group A: type II b, 2; total 2 jars.

Group B: type LV, 9; LVI, 3; LVIII, 1; LIX, 1; total 14 jars.

Group C: no examples.

Group D: type XXXV c, 1; LXXIX, 94 small models; total 95 small models.

Sum total: jars, 16 examples (3 practical jars and 13 models); basins, 95 (all models); sum total of vessels, 111 examples of which 3 were practical vessels and 108 models; total of types 7.

Copper: models of tools; 5 different tools.

14-4-7: copper; knife with tang; in frags.; length, 12.9 cm.; w. 1.7 cm. Pl. 69 e (1/1), Fig. 310.

14-4-8: copper; model adze; length, 6.8 cm.; w. edge, 1.4 cm.; w. butt, 1.2 cm. Pl. 69 e (3/2), Fig. 310.

14-4-9: copper; model adze, incomplete; length, 7.4 cm.; w. edge, 1.1 cm. Pl. 69 e (4/2), Fig. 310.

14-4-10: copper; model chisel; length 8.3 cm.; w. max. 0.9 cm. Pl. 69 e (5/2), Fig. 310.

14-4-11: copper; model axe-head; with one and probably three tie holes along flat side (handle side); length, 4.9 cm.; h. of flat side, 5.4 cm. Pl. 69 e (2/1), Fig. 310.

Mud sealing: found in chamber:

14-4-20: mud (sealing clay); box sealing with string mark; 4.8 × 3.6 cm. and 3.2 cm. high; impressed with cyl. seal with 6 vertical lines of which only the Horus name in a frame was legible, *Hr Ir-mrt* (= *Wsr-krf*).

Later Constructions:

Against the east face of the core north of the chapel was a composite mastaba, the result of repeated additions and alterations: this covered the face of the core from the north end of the exterior chapel of G 4520 to the NE corner of the core and westwards along the north end for a distance of 4.8 m.; these constructions were numbered as they appeared, G 4522 north of the NE corner and along the face of the core, and G 4523 on south against the chapel; in G 4522 was a corridor chapel of type (5 c) with deep recess at south end and a serdab behind the south wall; in the debris around this complex were found a number of frags. of statuettes, 14-3-20, 21, 23-25, 27-32, 62 (see Pl. 67 e); farther away NE of G 4520 was found:

14-3-4: num. lst.; seated man and wife with naked boy between them; h. 43.5 cm.; w. 27.0 cm.; inscribed on left side of seat a horizontal and four vertical lines of inscription: *rh nswt Hwfw-cnh*, (1) *ir-n n-f nw s-f . . .*, (2) *hnt . . .*, (3) *m st . . .*, (4) *hr nb-f . . . sn m . . .*; on basis in front of boy, *s-f mry-f Mn-kw-r-cnh*; on front of throne, beside legs of both man and woman, unintelligible inscriptions. Pl. 67 c.

14-3-16, 23, 32: num. lst.; standing pair man and wife; h. 43 cm.; inscribed on back of support, *iry sdwt n pr-cs*, *hnty s Ksp*: woman labelled, *hmt-f mrt-f Hy*. Pl. 67 d.

14-3-24, 31: w. lst.; incomplete seated pair, man and wife; small size; man labelled, *rh nswt hnty-s n pr-cs imshw hr ntr cs Ksp*: woman labelled, *hmt-f imsh (t) N-cnh-Hthr*. Photos. C 5731, 5729.

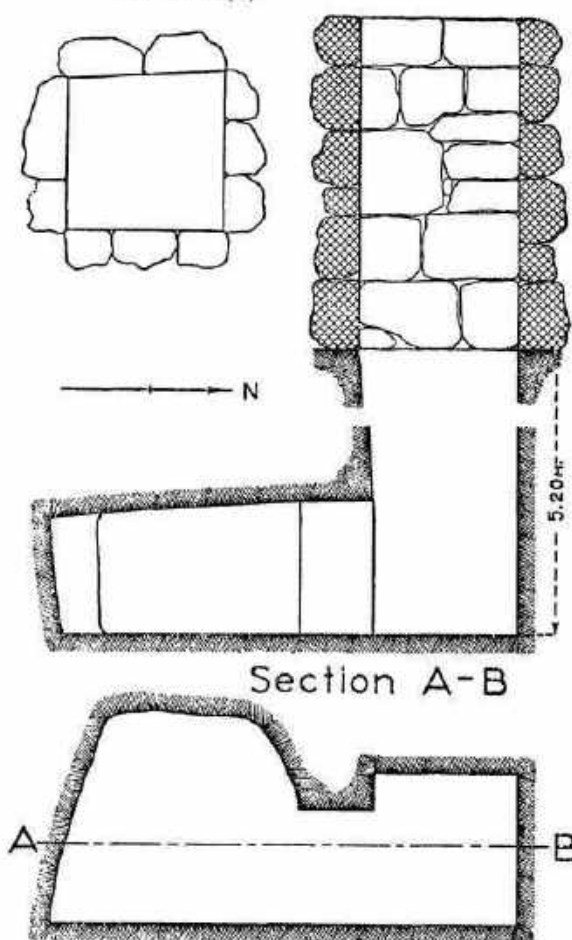
14-3-21: lst. frag. of crossbar or architrave; l. 25 cm., h. 13.5 cm. and 6.5 cm. thick; incised, *ir cnt N-spss-nswt* (identical with the *N-spss-nswt* of statuette in chapel of G 4410, and the *hm-k* priest on the north jamb of G 4411 (*L.D.* II, 89 c)). Photo. C 5730.

The names on these statuettes indicated that the persons named were all connected with Khufuw-anhk; one statuette with wife and son was undoubtedly made later by a son; the man Kap, represented by two pair

statuettes, is possibly the same as the Kap shown on the great stela as first member of the *sn-dt* of Khufuw ankh.

G 4524: small rubble mastaba built against the north end of G 4520 west of G 4522.

G 4525: small rubble mastaba built against the east face of G 4520 and against the south end of the masonry of room (b).



Plan 0 1 2 3 m.
Fig. 311. G 4260 A

(d) length, 7.3 cm.; w. max. 1.5 cm.

(e) length, 6.1 cm.; w. max. 1.3 cm.

Pl. 69 f, Fig. 312.

Pottery:

Group A: round-bottomed and pointed jars:

Type A II b: large wine-jar; frags. of 1 jar.

14-3-68 d: WSR (pinkish); 4 frags.

Group B: flat-bottomed jars:

Type B-LI b: bag-shaped jar with flat bottom; 1 example:

14-3-65: RBrW, wet smoothed; h. 8.6 cm.; d. rim, 7.8 cm.; d. max., 9.5 cm.; d. base, 4.8 cm. Pl. 69 g (1/2), Fig. 312.

Type B-LIV: two-handled oil-jars; 1 example:

14-3-67: special ware, cream slip; incomplete; h. 23.2 cm.; d. rim, 7.0 cm.; d. neck, 5.2 cm.; d. body, 16 cm.; d. base, 8.4 cm.; w. with handles, 20 cm. Pl. 69 h, Fig. 312.

Group C: round-bottomed basins and bowls:

Type C-XXXII: with recurved rim and round bottom; it is probable that 14-3-68 a included one or more RP bowls of type C-XXXII.

All these small mastabas appear to have belonged to persons related to Khufuw-ankh or his funerary service.

G 4620: row 2, line 6.

See Map 6 and Figs. 311 (shaft), 312 (objects).

See Pls. 67 f, 68 a and b, 69 f-h; 70 a.

Excavated: February 27th-28th, March 11th-14th; streets: March 15th to April 25th, 1914.

Owner: Ka-nofer, *ss r n nswt* (incised in large signs on east face of core).

Mastaba: core type IV-i, not cased; 22.85 × 9.85 m.; area, 225.07 sq. m.; prop. 1/2.32; h. 4.05 m.; 3 courses.

Chapel: exterior rubble chapel of type (1 d); one N-S offering-room with face of core as west wall; 7.2 × 1.5 m.; area, 10.8 sq. m.; prop. 1/4.8; no niche in west wall; entered from east at north end of east wall.

Shaft G 4620 A: soleshaft; 2.05 × 2.1 m.; -5.20 m. in rock; lined above with massive masonry, 4.35 m.; 5 courses.

Chamber: type 4 b (1) irregular; on south; 3.0 × 2.75 m. and 1.75 m. high; area, 8.25 sq. m.; capacity, 14.43 cu. m.; lower part of shaft and walls of chamber mended with small pieces of stone and plaster.

Passage: 1.0 × 1.5 m. and 1.8 m. high.

Blocking: interior blocking of type II c (2), penetrated.

Completely plundered except for potsherds and flint flakes.

14-3-19: flint; 5 flint flakes and two frags.; pointed end with rounded butt and rhomboidal section in middle:

(a) length, 9.6 cm.; w. max. 1.0 cm.

(b) length, 8.1 cm.; w. max. 1.1 cm.

(c) length, 8.6 cm.; w. max. 1.1 cm.

Group D: flat-bottomed basins and bowls:

Type D-XXXVI: recurved rim with spout; probably included in frags.

14-3-68a: RP; frags. of recurved rims.

Type D-XXXIX b: flaring bowl with concave sides, and plain rim; 1 example:

14-3-66: RP; incomplete; h. 20.4 cm.; d. rim, 27.2 cm.; d. base, 12.0 cm. Pl. 69 g (1/1), Fig. 312.

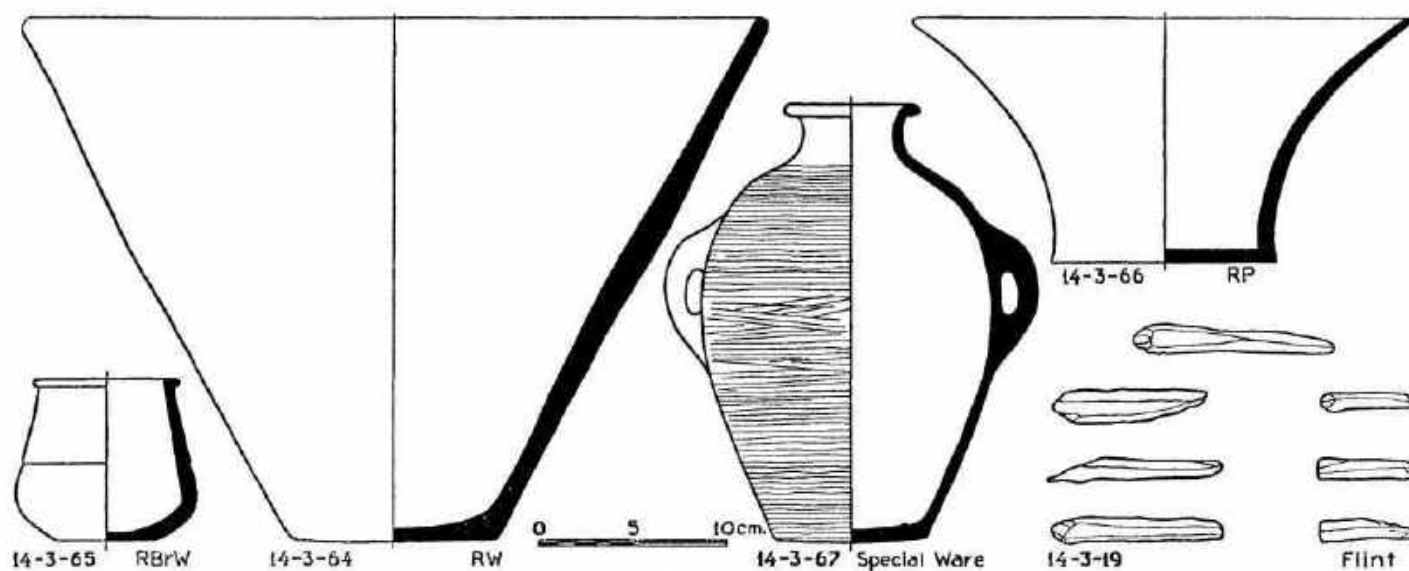


Fig. 312. G 4620 A

Type D-LXXIII: straight spreading sides with plain rim: 1 example:

14-3-64: RW, red wash; incomplete; h. 27.8 cm.; d. top, 39.3 cm.; d. base, 11.0 cm. Photo. C 5753, Fig. 312.

Type D-LXXV: flaring bowl with internal moulding; frags.; 1 example.

14-3-68 c: RBrW, wet smoothed; frags.

Unidentified:

14-3-68 b: thick ware with black fracture, RP; frag. from rim of a large basin with moulded rim.

SUMMARY OF POTTERY:

Group A: type II b, 1; total 1 example.

Group B: type LI, 1; LIV, 1; total 2 examples.

Group C: type XXXII (?), 1 or more.

Group D: type XXXIX, 1; LXXIII, 1; LXXV, 1; XXXVI (?), 1; total 4 or more.

Sum total: 8 or more in 8 types.

Later Constructions: only one full partly destroyed mastaba was built against the east face of the core, G 4622; two shafts were found, G 4623 north of NE corner of core and G 4624 south of the chapel against the SE corner.

G 4621: three-shaft E-W mastaba built against the south end of G 4630 abutting on the west wall of the court.

Alabaster statuettes of 'Prince' Khnum-ba-f (G 5230) were broken up in the street east of G 4620 after it had been covered with a light layer of drift sand; we found in this sand just above the rock a great number of frags. of alabaster including two heads (14-3-1 and 2) one of which joins with an inscribed panel with the name of 'Prince' Khnum-ba-f found with other fragments SE of G 4830.

G 4720: row 2, line 7.

See Map 6 and Figs. 313 (shaft), 314 (objects).

See Pls. 68 c and d, 70 a-f.

Excavated: February 1st to March 13th, 1914.

Mastaba: core type IV-i, not cased; 23.3 × 9.8 m.; area, 228.34 sq. m.; prop. 1/2.38; h. 5.0 m.; 4 courses.

Chapel: no trace was found; the place where an exterior c.b. chapel would have stood was covered by the south end of G 4722, leaving a passage 2 m. wide along the face of G 4720.

Shaft G 4720 A: sole shaft; 2.2×2.2 m. lined with massive masonry, 5.0 m.: 5 courses; smaller rock-cut shaft in NW corner, 1.6×1.8 m.; -5.0 m. in rock.

Chamber: type 4 b (1) irregular; on south; 2.5×1.7 m. and 1.55 m. high; area, c. 4.0 sq. m. (irregular); capacity, 6.2 cu. m.

Passage: 0.5×1.3 m. and 1.4 m. high; irregular step down from floor of passage to floor of chamber, 0.15 m.

Blocking: interior wall of rough masonry set in plaster; type III c (1), partly preserved.

No trace of coffin or skeleton; on floor scattered potsherds and a few ox-bones.

Objects: found in thieves' debris in shaft:

14-3-58: flint: four flakes:

(a) razor with worked rounded ends, l. 9.4 cm.; w. 2.6 cm.; thickness, 0.5 cm. Pl. 70 a (1), Fig. 314.

(b) narrow pointed flake: l. 8.4 cm.; w. 1.2 cm. Pl. 70 a (1/2), Fig. 314.

(c-d) two small frags. like (b): l. 5.5 cm.; w. 1.3 cm. Pl. 70 a (4/2, 3).

Pottery: found in thieves' debris partly in shaft and partly in chamber:

Group A: round-bottomed or pointed jars:

Type A-II b: large wine-jar; frags of rim (2 examples):

14-3-56: hard brown ware, black fracture, wet smoothed; frag.

14-3-57 c: WSR; frag. rim.

Group B: flat-bottomed jars:

Type B-LI b: flat-bottomed bag-shaped jar; 1 example:

14-3-34: BrW; h. 10.0 cm.; d. rim (roll rim), 7.2 cm.; d. max. 11.2 cm.; d. base, 4.2 cm. Pl. 70 b (2/1), Fig. 314.

Type B-LV b: neckless shoulder-jar; 5 examples; one large jar and 4 large models:

14-3-35: BrW; 3 examples; h. 8.1-9.5 cm.; d. max. 9.7-10.1 cm.;

(a) h. 9.8 cm.; d. rim, 6.2 cm.; d. max. 9.8 cm.; d. base, 5.0 cm. Pl. 70 b (2/2), Fig. 314.

14-3-36: RBrW; incomplete; h. 10.7 cm.; d. rim, 7.0 cm.; d. shoulder, 10.7 cm.; d. base, 5.0 cm. Pl. 70 b (1/5).

14-3-45: RP; h. 26.0 cm.; d. rim, 9.0 cm.; d. shoulder, 13.8 cm.; d. base, 10 cm. Pl. 70 c (1/2), Fig. 314.

Type B-LV b-m: small models of neckless shoulder-jar with splay foot; 4 examples:

14-3-39: BrW; 4 examples; h. 4.9-6.2 cm.; d. 5.8-6.3 cm.; (a) h. 6.2 cm.; d. rim, 4.2 cm.; d. shoulder, 6.0 cm.; d. min. 3.2 cm.; d. base, 4.0 cm. Pl. 70 b (1/4), Fig. 314.

Type B-LVI a: collar jar; large models with splay foot; 5 examples:

14-3-37: BrW; h. 9.7 cm.; d. top, 3.6 cm.; d. collar, 4.3 cm.; d. body, 4.6 cm.; d. min., 3.0 cm.; d. base, 3.6 cm. Pl. 70 b (1/1).

14-3-38: BrW; 3 incomplete models of about the same size as 14-3-37.

14-3-41: BrW; 1 example; h. 8.6 cm.; d. top, 3.8 cm.; d. collar, 4.8 cm.; d. body, 5.2 cm.; d. min. 3.0 cm.; d. base, 3.6 cm. Pl. 70 b (1/2), Fig. 314.

Type B-LVIII: barrel jar with belt, splay foot; 2 examples:

14-3-40: BrW; h. 8.1 cm.; d. top, 4.0 cm.; d. max. 5.2 cm.; d. min. 3.0 cm.; d. base, 3.2 cm. Pl. 70 b (1/3), Fig. 314.

Group C: round-bottomed basins and bowls:

Type C-XXXII a: bowl with recurved rim; 2 (?) examples:

14-3-54: WSR, heavy ware; 2 frags. of rim with different curvature; the slope indicates type C-XXXII, but the ware is unusual.

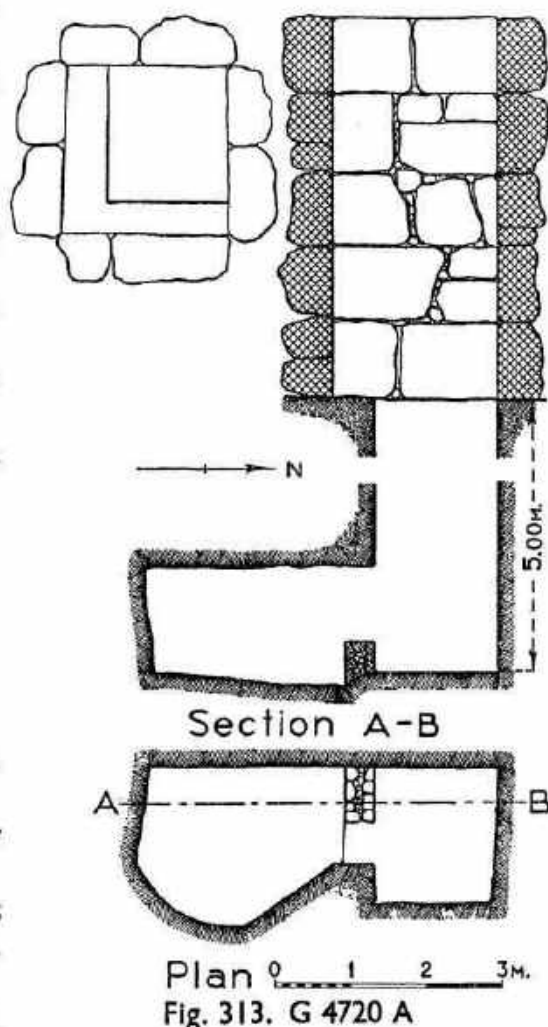


Fig. 313. G 4720 A

Type C-XXXII b: with high recurved rim; 3 examples:

14-3-42: RP; incomplete; h. 8.8 cm.; d. rim, 23.6 cm.; d. body, 23.4 cm. Fig. 314.

14-3-43: RP; incomplete; h. c. 7.5 cm.; d. 20.5 cm.

14-3-44: RP; incomplete; h. 8.0 cm.; d. rim, 20.4 cm.; d. body, 21.6 cm. Fig. 314.

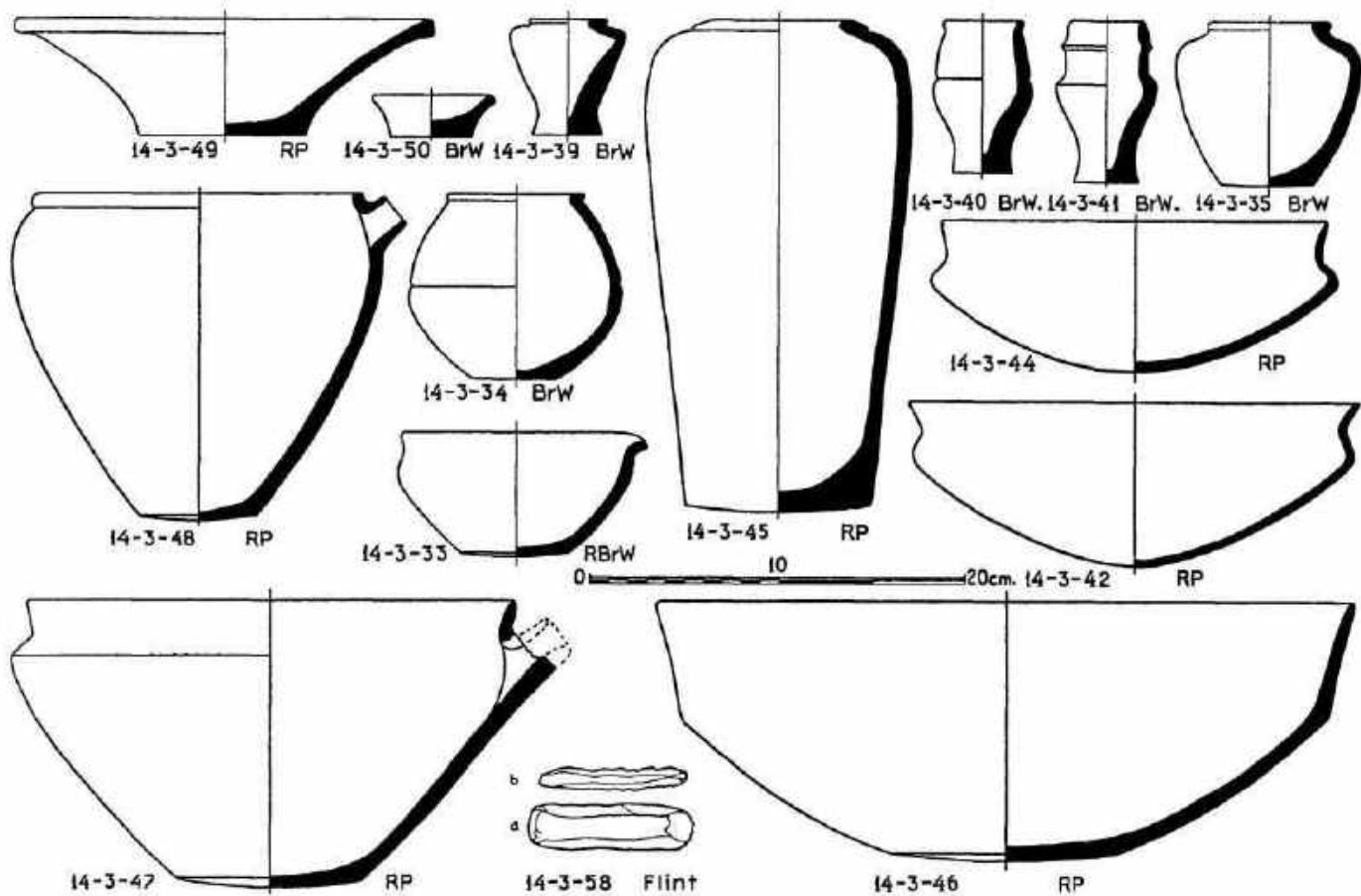


Fig. 314. G 4720

Group D: flat-bottomed basins and bowls:

Type D-XXXV a: basin with short tubular spout; 3 examples:

14-3-48: RP; 2 examples, incomplete; (a) h. 35.2 cm.; d. rim, 35.2 cm.; d. max. 40.0 cm.; d. base, 12.0 cm.; w. with spout, 40.8 cm.; (b) h. 30.6 cm.; d. max. 36.3 cm. Pl. 70 e (1/1-2), Fig. 314.

14-3-55: RW, wet smoothed; frag. of small basin.

Type D-XXXV c: basin with open spout; model; 1 example:

14-3-33: RBrW; h. 6.4 cm.; d. rim, 12.0 cm.; d. max. 12.8 cm.; d. base, 5.0 cm.; w. with spout, 13.0 cm. Pl. 70 b (2/3), Fig. 314.

Type D-XXXVI a: recurved rim and long tubular spout; 3+ examples:

14-3-47: RP; incomplete (end of spout broken off); h. 15.2 cm.; d. rim, 25.2 cm.; d. body, 27.2 cm.; d. base, 9.6 cm.; w. with spout, 29.6+ cm. Pl. 70 d, Fig. 314.

14-3-53: RP; many frags. of recurved rims like the type; one or more examples.

14-3-57 h: RP; frag. with tubular spout. Pl. 70 c (1/1).

Type D-XXXIX a: flaring bowl with concave sides; frags. of 1:

14-3-51: RP; 2 frags.

Type D-XXXIX c: flaring bowl with straight sides and moulded rim; 1 example:

14-3-49: RP; incomplete; h. c. 6.3 cm.; d. rim, 22.4 cm. Fig. 314.

Type D-LXXV: flaring bowl with internal moulding; 3 examples:

14-3-57 a, b, f: coarse RW; frags. of three different vessels; (a) h. c. 5.0 cm.

Type D-LXXXVI b: bent-sided bowl with plain rim; 2 examples:

14-3-46: RP; incomplete; h. 13.8 cm.; d. rim, 36.6 cm.; d. bend-line, 34.0 cm.; d. base (slightly convex), 12.0 cm.

Pl. 70 f, Fig. 314.

14-3-52: RP; frags.; h. c. 20 cm.; d. c. 36 cm.

Type D-LXXXIX a: model basins with straight sides; 38+ examples:

14-3-50: BrW; 38+ examples; h. 1.7-2.5 cm.; d. 5.7-7.2 cm.; (a) h. 2.2 cm.; d. max. 6.4 cm.; d. base, 4.2 cm.

Pl. 70 b (1/6), Fig. 314.

Frgs. of vessels of unidentified type; 3 examples:

14-3-57 c: thick brown ware; frag. of a rim of basin (?).

14-3-57 d: BrW; frag. from rim of small bowl.

14-3-57 g: RBrW, wet smoothed; rim of basin with moulded rim.

SUMMARY OF POTTERY:

Group A: type II b, 2; total 2 examples.

Group B: type LI, 1; LV, 5; LV b-m, 4; LVI, 5; LVIII, 2; total 17 examples.

Group C: type XXXII, 5; total 5 examples.

Group D: type XXXV, 4; XXXVI, 3+; XXXIX, 2; LXXV, 3; LXXVI, 2; LXXIX, 38+; total 52+ basins of which 38+ were small models.

Unidentified vessels, 3 vessels.

Sum total of vessels, 79+; 76+ of identified types and 3 unidentified.

Total types identified, 13 types.

Later Constructions:

G 4721: built against the south end of G 4730 in avenue north of G 4720; medium mastaba of u-masonry with interior chapel of type (7 b); between this and G 4720 were found frags. of granite pair (two men) seated (14-2-15); uninscribed; and the top of an alabaster head-rest (14-2-14) probably from plundered shaft of G 4721; in the shaft a sealing of Nefer-f-ra (*Hr Nfr-hrw*) and 4 canopic jars.

G 4722: built in street east of G 4720 against the back of G 4820; leaving a passage between G 4720 and G 4722.

G 4723: a single shaft against the east face of G 4720 near NE corner.

G 4724: a small mastaba built against the north end of G 4722.

G 4725: in street east of north end of G 4720; built against the south end of G 4733: stone mastaba, badly destroyed.

G 4820: row 2, line 8.

See Map 6 and Fig. 315 (shaft).

See Pl. 68 e.

Excavated: Feb. 12-18, Dec. 29, 31, 1914; Jan. 2, 5, 12, 1915.

Mastaba: core type IV-i; not cased; 23.9 × 10.3 m.; area, 246.17 sq. m.; prop. 1/2.32; h. 4.4 m., 4 courses.

Chapel: the street east of G 4820 was covered with a layer of hard packed debris thrown from a shaft (G 4820 A or G 4930); this layer had been levelled off and on it later constructions were built, in particular the mastaba G 4821 at the north end; at the south end of the street opened the doorway (facing north) of G 4813; on excavating this hard debris (January 19th, 1915), a rubble chapel was exposed towards the south end of the core and south of it an unintelligible c.b. wall (E-W).

Exterior one room rubble chapel of type (1 d) south of middle of core:

(a) N-S offering-room, 4.05 × 1.7 m.; area, 6.89 sq. m.; prop. 1/2.38; with face of core exposed in west side; no niche; entered from east by doorway in south end of east wall.

Shaft G 4820 A: sole shaft; 2.05 × 2.05 m.; lined with massive masonry, 4.6 m.; 7-8 courses; rock-cut smaller shaft in SW corner; 1.5 × 1.5 m. at top contracting to 1.0 × 1.1 m.; -3.7 m. in rock; lower part of shaft and chamber irregularly cut in bad rock.

Chamber: type 6 b irregular; on south; c. 2.1 × 1.4 m. and 1.3 m. high; area, c. 2.94 sq. m.; capacity, 3.82 cu. m.

No trace of burial or equipment found.

Later Constructions:

G 4821: built around the NE corner of G 4820, partly against its east face and partly against its north end and extending north to abut on the south end of G 4830 and G 4833.

G 4822: no mastaba preserved but three shafts west of G 4821 and south of G 4830; large quantity of potsherds of good types were found in shaft B but were undoubtedly intrusive.

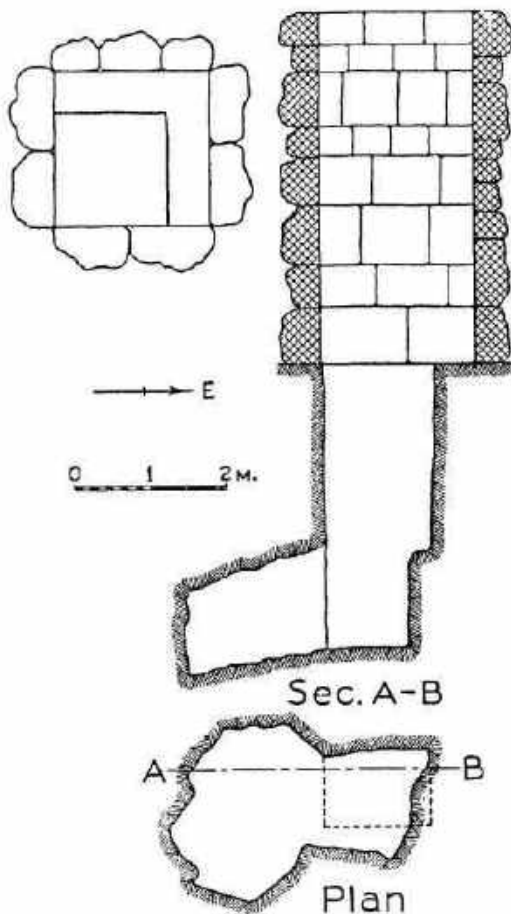


Fig. 315. G 4820 A

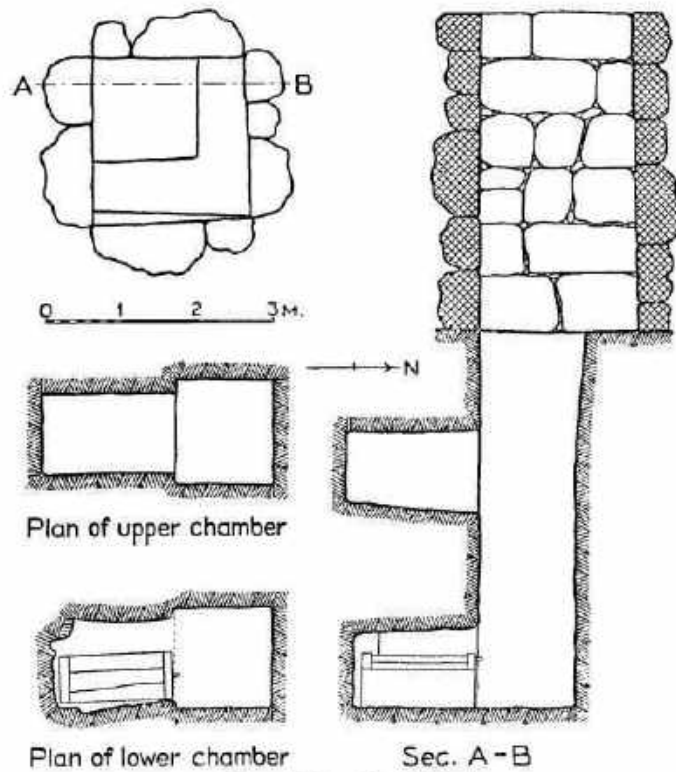


Fig. 316. G 4310 A

6. The last addition of five mastabas: G 4310-4710.

G 4310: row 1, line 3.

See Map 6 and Fig. 316 (shaft).

See Pl. 70 g, 71 a.

Excavated: December 31st, 1915, to January 5th, 1916.

Mastaba: core type IV-i, not cased; 24.0×9.5 m.; area, 228.0 sq. m.; prop. $1/2.52$; h. 4.1 m.; 5-6 courses.

Chapel: probably an exterior c.b. chapel, but no trace remains; one niche is cut in the massive core masonry towards the north end of the east face, at 5.79 m. from the NE corner; a simple niche with drum and architrave, 11 cm. wide and 4 cm. deep; the height is 1.1 m.; not inscribed; against the east face south of the niche stands a small composite mastaba of later date, G 4312, which extended to near the SE corner of the core.

Shaft G 4310 A: sole shaft; 2.05×2.2 m.; lined with masonry above, 4.2 m.; 6 courses; smaller rock-cut shaft in SW corner; 1.4×1.35 m.; -5.0 m. in rock; two chambers.

Chamber (1): at 2.4 m. in rock; type 6 b (1); on south; 1.8×1.05 m. and 1.05 m. high; area, 1.9 sq. m.; capacity, 1.99 cu. m.; found open and empty.

Chamber (2): at 5.0 m. in rock; type 6 b (2); on south; 1.65×1.15 m. and 1.0 m. high; area, 1.89 sq. m.; capacity, 1.89 cu. m.

Blocking: exterior leaning wall set in plaster; blocking type IV b (1).

Coffin: plain wooden coffin with *krst* lid; outside, 1.5 × 0.62 m. and 0.5 m. high; h. of *krst* lid, 0.22 m.

Burial: skeleton, half contracted, head north and face east; wrapping entirely decayed.

No objects found.

G 4410: originally core of type IV-i in row 1, line 4.

See Map 6 and Figs. 317 (shaft), 318 (objects).

See Pl. 71 b-f.

Excavated: December 21st-31st, 1915.

Mastaba: in place of an old core and perhaps reconstructed from its blocks of stone; reconstructed mastaba of type IX a (1) with retaining walls of large blocks of grey nummulitic limestone (with sloping faces partly dressed); 22.75 × 9.8 m.; area, 220.25 sq. m.; prop. 1/2.33; h. 3.8 m.; sloping batter.

Chapel: exterior chapel of type (8 g) built of u-masonry contains a N-S offering-room with serdab behind its south wall and an exterior c.b. room.

(a) N-S offering-room with one stela at south end of west wall; 5.1 × 1.55 m.; area, 7.91 sq. m.; prop. 1/3.29; entered from east from room (b), by doorway in north end of east wall; in the NW corner was a c.b. compartment containing two small limestone statuettes:

15-12-46: w. lst.; perfect (remains of colour); h. 38.5 cm.; w. 22.5 cm.; inscribed on left side of basis, *imy-rj šsr N-špšš-nšwt* (Ne-shepses-nesuwt); on right side, *hm-kj N-špšš-nšwt*; short wig, ears covered; right hand closed and left open on thighs. Pl. 71 d (*in situ*), Pl. 71 e.

15-12-47: w. lst.; in three pieces, complete; seated man; short wig (not ridged), ears covered; right hand closed and left open on thighs; colour on body; face damaged; on right side, facing to right; *ṯst-ṯnh*; h. 28.0 cm.; w. 11.5 cm. Pl. 71 d (*in situ*), Pl. 71 f.

15-12-48: pottery bowl found in debris of chamber.

(b) exterior corridor of c.b., built around doorway to (a), filling the angle between room (a) and the serdab; 5.55 × 1.7 m.; area, 9.44 sq. m.; entered from north; doorway to (a) on west.

Total area (a) and (b), 17.35 sq. m.

Subsidiary north niche: cut in mastaba façade, north of chapel.

Serdab: large E-W serdab in masonry south of room but extending eastwards; 1.0 × 4.6 m.; area, 4.6 sq. m.; lined with masonry preserved to a height of about 1 m.; this serdab, found empty, was intended for statuettes of the owner of G 4410; the two small statuettes in the offering room deposited later represent figures of two funerary priests; slot opening in middle of south wall of (a) leads to serdab.

Shaft G 4410 A: sole shaft; 1.7 × 1.6 m.; —11.9 m. in rock; lined above with massive masonry, 3.8 m.; 6 courses.

Chamber: type 4 b (1); on south; 3.55 × 3.0 m. and 1.95 m. high; area, 10.65 sq. m.; capacity, 20.76 cu. m.

Passage: 0.9 × 1.6 m. and 1.95 m. high.

Blocking: interior rough stone set in mud; type II c (2); upper part penetrated by thieves.

Coffin: white limestone coffin with *krst* lid; outside, 2.6 × 1.02 and 0.75 m. high; height of *krst* lid, 0.2 m.; inside, 2.0 × 0.5 and 0.55 m. deep; standing N-S along west wall of chamber; well-dressed surfaces.

Built canopic receptacle: in SE corner, partly destroyed; outside, 0.8 × 1.2 m. and 0.45+ m. high.

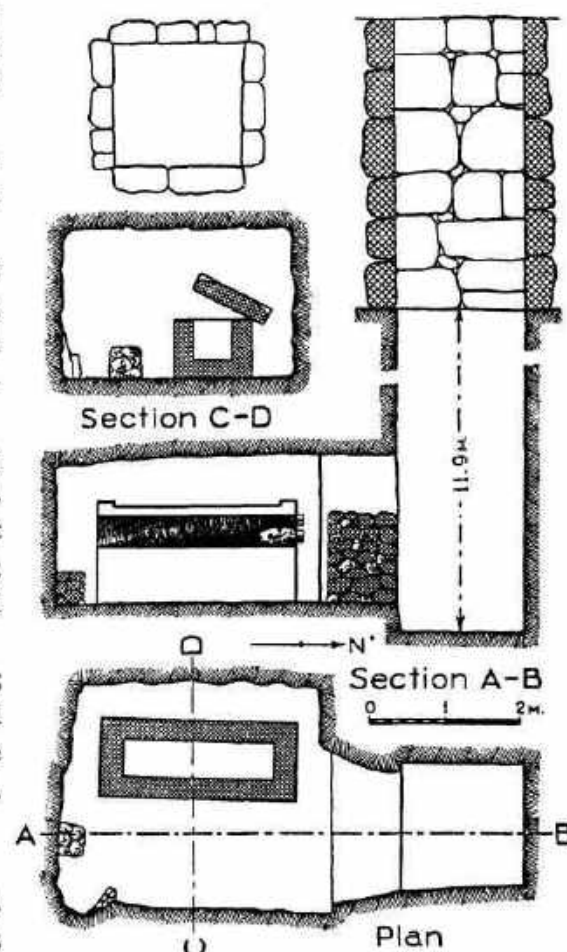


Fig. 317. G 4410 A

Burial: plundered and bones (including skull) scattered.

On the floor in thieves' debris were scattered a leg bone of an ox, copper models, potsherds, &c.

Miscellaneous Objects:

- 15-12-49: mud (sealing clay); box sealing with imprint of string on flat bottom; 2 frags., about 2/5th of seal; impressed with cylinder seal; impressions damaged but clearly legible in two places is a rectangular frame (not a Horus frame) containing the name *Tr-Mst*, the Horus name of Weserkaf; perhaps to be read *Ht-Tr-mst*: dates the burial to Weserkaf or later.

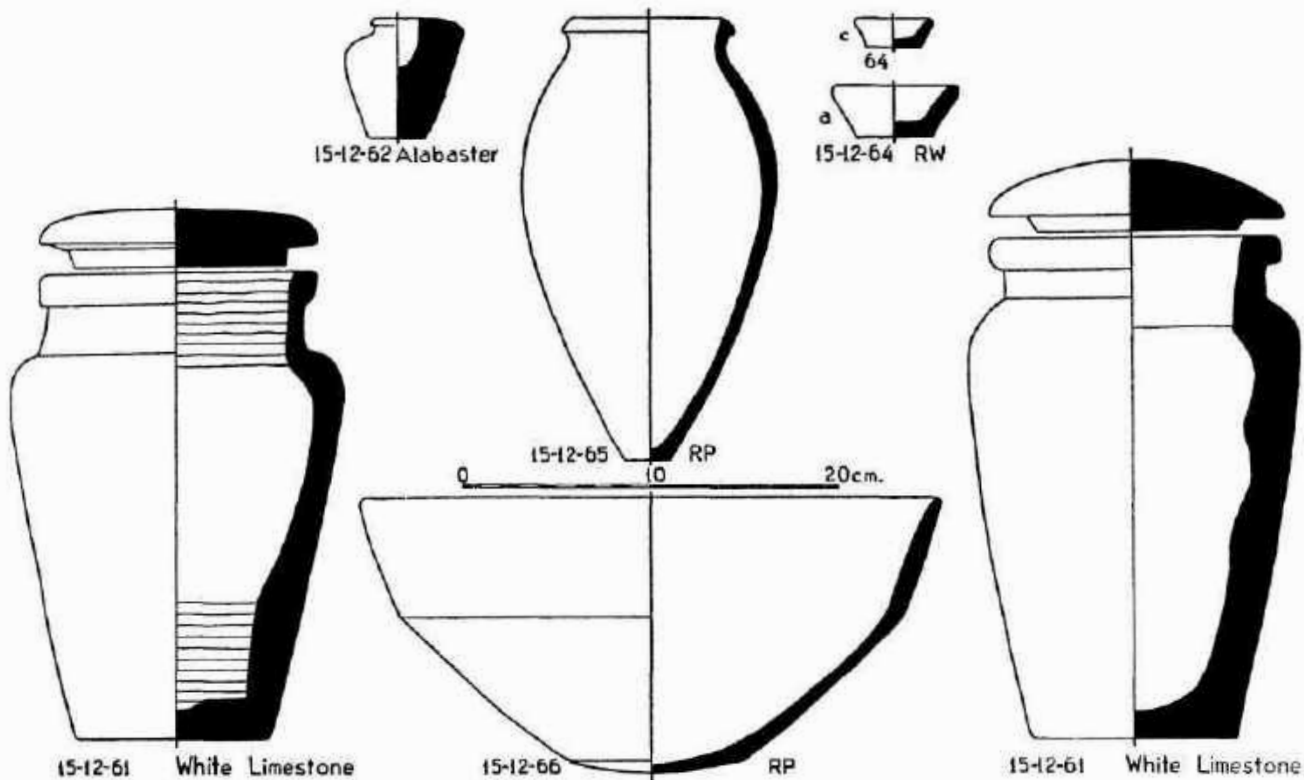


Fig. 318. G 4410

15-12-50: faded faience: beads from necklace:

- (a) 39 short cyl. beads; length, 5-13 mm.
- (b) 2 ring beads.
- (c) one end piece, 2.7 × 3.1 mm.

15-12-51: gold: few frags. of crumbled leaf.

15-12-52 to 58: copper: models, tools, and implements:

- (52) adze, in 3 pieces; length about 5.5 cm.
- (53-56) 4 drills; length, 4.1-5.5 cm.
- (57) model of vessel with spout; frag. length of spout, 3.5 cm.
- (58) about 40 frags. of model implements and vessels.

15-12-59: sandstone; upper part of a plummet; h. 4.1 cm.

15-12-60: white plaster, painted yellow; covers of model granary jars; 10 examples; each made of two pieces stuck together; h. 3.7-4.4 cm.; d. 2.2-2.3 cm.

15-12-61: w. lst.; 4 canopic jars with domed lids; h. 24.6-26.4 cm.; d. 17.3-19.4 cm.; (a) h. 24.6 cm.; d. rim, 14.8 cm.; d. max. 17.3 cm.; d. base, 10.6 cm.; (b) h. 26.4 cm.; d. rim, 15.4 cm.; d. max. 17.4 cm.; d. base, 10.8 cm. Photo. B 3982 (2/1-4). Fig. 318.

15-12-62: alab.; model one-handled jug with unpierced handle; type S-XIV b; h. 6.4 cm.; d. rim, 3.6 cm.; d. shoulder, 5.6 cm.; d. base, 2.8 cm.; w. with handle, 5.2 cm. Fig. 318.

15-12-63: two halves of a bivalve shell (one decayed); length, 10.5 cm.; w. 6.5 cm.

POTTERY.

Group B: flat-bottomed jars:

Type B-XVIII a: slender jar with roll rim on mouth and narrow flat base; 1 example:

15-12-65: RP; h. 23.4 cm.; d. rim, 8.8 cm.; d. body, 13.4 cm.; d. base, 2.6 cm. Fig. 318.

Type B-LIV: two-handled oil-jar; special ware; 1 example:

15-12-67: special ware; incomplete; h. 38 cm.; d. rim, 10 cm.; d. neck, 7 cm.; d. body, 20 cm.; d. base, 8.5 cm.; w. with handles, 24 cm.

15-12-69: plaster stopper probably from 15-12-67; with imprint of saucer (upside down) on lower surface; h. 5.0 cm.; d. max. 13.0 cm.

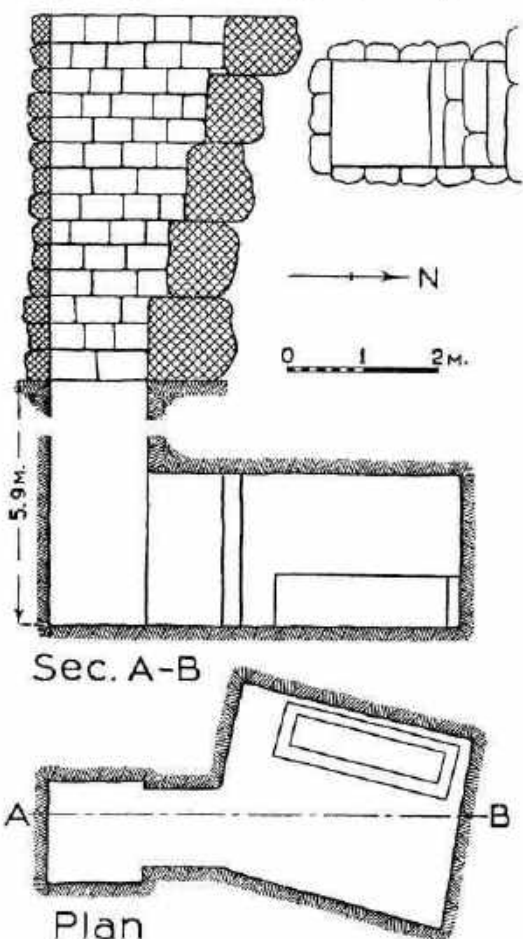


Fig. 319. G 4411 A

Group D: flat-bottomed basins and bowls:

Type D-LXXVI b: bent-sided bowl with flat bottom: 1 example:

15-12-66: RP; h. 14.5 cm.; d. rim, 30.6 cm.; d. bend-line, 26.6 cm.; d. base (slightly convex), 8.4 cm.; h. upper part, 6.3 cm. Fig. 138.

Type D-LXXIX: RW; model basins with straight sides, spreading; 8 examples:

15-12-64: RW; 8 examples, 5 complete; (a) h. 2.7 cm.; d. max. 6.8 cm.; d. base, 4.2 cm.; (b) h. 2.5 cm.; d. max. 6.4 cm.; d. base, 4.6 cm.; (c) h. 1.6 cm.; d. max. 4.3 cm.; d. base, 3.0 cm. Fig. 138.

SUMMARY OF POTTERY:

Group B: type XVIII, 1; LIV, 1; total 2 jars.

Group D: type LXXVI, 1; LXXIX, 8; total 9 examples.

Sum total, 11 vessels, of which 8 were models; total types, 4.

Remains of mummy and meat offerings:

15-12-68: frags. of plaster; white plaster which had been laid over wood in some cases and over cloth in others; probably from mummy and coffin: largest pieces, 3.0 × 2.8 cm.

15-12-81: skull with jaw-bone attached.

15-12-82: upper leg bone of ox.

Later Constructions:

G 4411: built between the north wall of G 4410 and the south wall of G 4420; described below.

G 4412-4416: a secondary cemetery of small mastabas south of G 4410 and south of its exterior chapel.

G 4411 = LG 51: built between G 4410 and G 4420 projecting into street to east.

Excavated: April 19th-25th, 1914.

See Map 6 and Fig. 319. Pl. 72 a.

Owner: Sekhem-ka, *hry-hb*, *hry ššt*, *hm ntr Hr Thmw(?) kst-ε, wr idt*.

Mastaba: type VIII a; 3.75 × 10.65 m.; area, 39.93 sq. m.; projection: 8.3 × 3.35 m.; area, 27.81 sq. m.; total area, 67.74 sq. m.; E-W mastaba; h. 4.8 cm. of grey nummulitic block.

Chapel: two-room interior chapel:

(a) N-S offering-room of white limestone; with two *ka*-doors in west wall; 2.2 × 1.01 m.; area, 2.22 sq. m.; prop. 1/2:18; relation, 1/17.43; entered from east from (b) at north end of east wall.

(b) vestibule, N-S corridor; 4.6 × 1.45 m.; area, 6.67 sq. m.; entered from east by door in middle of east wall: nummulitic limestone; doorway to (a) in middle of west wall.

Total area (a), (b), 8.89 sq. m.; relation 1/3:11.

Decoration of Chapel: the entrance to room (a) was decorated, architrave, drum, and two door-jambs (now in Berlin Museum): the rest of room (a) was not decorated: room (b) except for the door to (a) was not decorated.

Architrave (Lepsius, *Denkmäler*, Pl. 89 b): two horizontal lines facing to right with seated figure on left end facing to right; left hand on tie of panther skin and right clenched on thigh: (1) *dl nswt Inpw htp hnty sh ntr krs-t-f (m) smyt imnt-t iwo nfr wnt nb imsh hr ntr* (2) *pri-hrw n-f wp rnpt Dhwtyt tpy rnpt Wig hb wr rkh prt-Mnw hb nb r nb hry-hb, hry sst*: and vertically in front of figure *hry-hb Shm-ks*.

Drum: *hry-hb Shm-ks*.

North door-jamb (Lepsius, *Denkmäler*, Pl. 89 c; Steindorff, *Kunst der Ägypter*, Pl. 196): large figure of man standing with staff and wand facing out; full wig, broad necklace, *hry-hb* sash; short skirt with pleated back; chin beard; between man and staff stands naked boy facing to right holding staff with left hand; side-lock and broad collar, labelled, *sr-f Mnw-hr(f)*; above beside the drum, five vertical lines: (1) *hry-hb, hry sst n*, (2) *hm ntr Hr Thmo(?) kst-r, wr idt*, (3) roughly blocked in, *trr mrnt nb-f r nb*, (4) *imshw n nb-f*, (5) *nb imsh hr ntr* and in front of face *Shm-ks*. In front of man, two registers of small figures: (1) figure standing facing to left holding papyrus in both hands, labelled above *rdit ss ndt hr*; (2) two figures standing facing to left: (a) with ewer and basin, *hm ks ir cnt N-sps-s-nswt* (cf. statuette found in chapel of G 4410); (b) with wicker basket on shoulder, *hm ks* . . . (two daggers in case), *hm ks Ttw* (identical with owner of G 4420, see Fig. 308).

South door-jamb: outer part destroyed; large standing figure facing out to left, with staff and wand; short wig, broad collar, panther skin over short skirt; between staff and man a small naked girl with right hand on breast and left hand hanging . . . (*sr-t-f Hnt-kw-s*; above five vertical lines with titles as on north with the addition of 'wbs-priest of Inpw' in place of 'priest of Horus' and *wr idt*.

Serdab: small E-W serdab behind south *ka*-door of room (a) and connected with it by slot; 0.85 × 1.15 m.; area, 0.94 sq. m.; found empty.

Shaft G 4411 A: one shaft west of chapel against south end of G 4420; 1.3 × 1.35 m.; —5.9 m. in rock; lined with masonry on east, south, and west, 4.8 m.; 14 courses.

Chamber: type 4 b (1); on north (slightly askew); 3.2 × 2.45 m. and 2.0 m. high; area, 7.84 sq. m.; capacity, 15.68 cu. m.

Passage: 1.0 × 1.05 m. and 2.0 m. high.

Blocking: completely removed.

Coffin: white limestone coffin without lid; outside, 2.35 × 0.77 and 0.72 m. high; inside, 2.0 × 0.42 m. and 0.46 m. deep.

Completely plundered.

G 4411 was closely connected with G 4410; the position of G 4411 shows that it may have been built as an addition to G 4410; the *hm-ks* Ne-shepses-nesuwt appears on the north door-jamb of G 4411 chapel and on a small statuette in the offering-room of the exterior stone chapel of G 4410, which was of u-masonry and later in date than the masonry used in G 4411, which was nearly contemporaneous with the masonry of G 4410; each mastaba has a shaft with large burial-chamber, both of the same type 4 b (1), each containing a white limestone coffin; the chamber in G 4410 is a little larger; they appear to have been made by the same workmen; the larger size of the chamber in G 4410 indicates that he or she was the more important person. Thus G 4410 may have belonged to an unnamed person and G 4411 to his son, or alternatively, G 4410 may have belonged to Sekhem-ka and G 4411 to his wife: I consider the latter suggestion as more probable and would reconstruct the stages in the building of the two mastabas by Sekhem-ka as follows:

- (1) He reconstructed the old core G 4410 into a mastaba of type IX a (1) with one shaft.
- (2) He built G 4411 of nearly the same masonry as an addition containing the shaft intended for his wife; in this he made an interior chapel of white limestone, of which the doorway was decorated in his name, probably intended to serve for the funerary services of himself and wife.
- (3) He added an exterior vestibule corridor of nummulitic limestone to the offering-room of G 4411; left undecorated.
- (4) Finally he or some one else constructed the exterior stone chapel against the east face of G 4410 and cut the subsidiary niche in the north end of the façade of that mastaba; the serdab of that chapel is much larger than that in G 4411.

I thus conclude that the chapel of G 4411 was constructed to serve the funerary services of both persons buried in the complex mastaba: that Sekhem-ka was buried in shaft G 4410 A and his wife in G 4411 A.

It is to be noted that the *hm-kꜣ Ttw* represented on the north door-jamb of G 4411 may be identified with the Tetuw of G 4420; in that case the use of G 4420 by Tetuw was later than the burials in G 4410 and G 4411, and this conclusion is borne out by the type and small size of the burial-chamber and by the cheap finishing of the old core. The names and titles of both Ne-shepses-nesuwt and Tetuw were apparently incised later than the reliefs in G 4411.

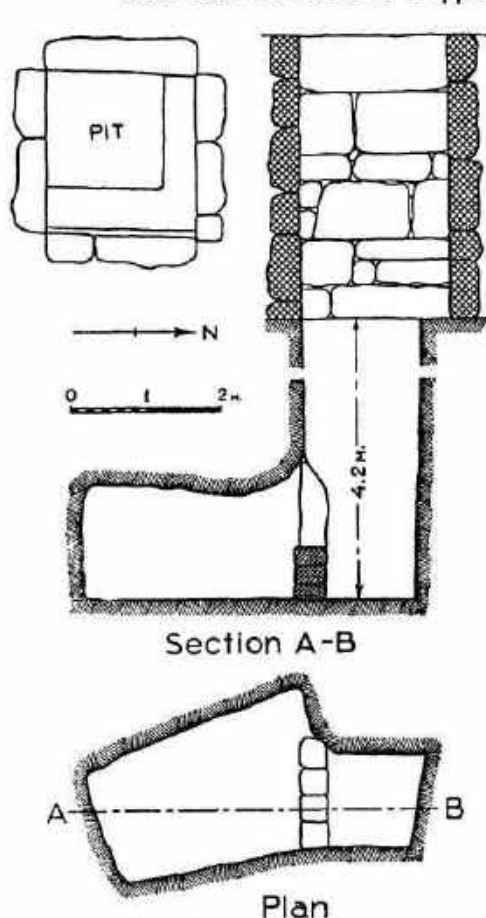


Fig. 320. G 4510 A

G 4510: row 1, line 5:

See Map 6 and Figs. 320 (shaft), 321 (objects).

See Pl. 72 b.

Excavated: January 17th and December 11th-12th, 1915.

Mastaba: core type IV-i; not cased; 23.5×10 m.; area, 235.0 sq. m.; prop. $1/2.35$; h. 3.7 m., 3-4 courses.

Chapel: the usual place of the chapel is taken by a N-S passage which gives a circuitous entrance to the chapel of G 4516; the street is filled by later mastabas, but on the west side underneath were exposed older rubble walls belonging to a rubble chapel of type (1 d), partly destroyed:

- (a) N-S offering-room appears to have been against the middle of the east face of the mastaba; about 4.75×1.4 m.; area, 6.65 sq. m.; prop. $1/3.39$; entered from east by doorway in north end of east wall.

There are two other low-lying walls which could not be identified and may not belong to the chapel.

Shaft G 4510 A: sole shaft; 2.0×2.15 m.; lined with massive masonry 3.7 m.; 6 courses; smaller rock-cut shaft in SW corner; 1.55×1.5 m.; -4.2 m. in rock.

Chamber: type 6 b (1); on south; 3.0×1.9 m. and 1.45 m. high; area, 4.8 sq. m.; capacity, 6.96 cu. m.

Blocking: exterior leaning masonry wall bound with mud; type IV c (2); broken by thieves.

Plundered: a small number of objects scattered in thieves' debris partly in shaft and partly in chamber.

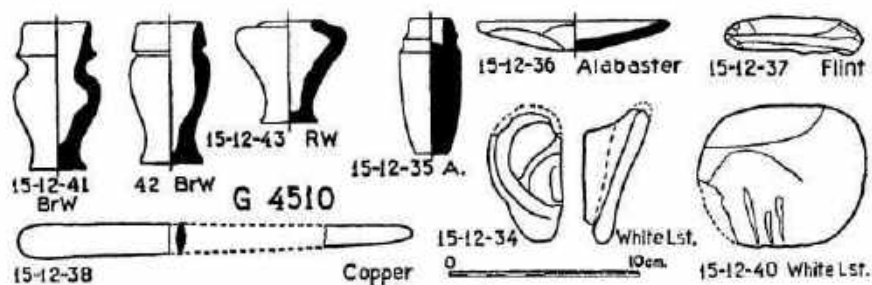


Fig. 321

15-12-34: w. lst.; ear of life size from a portrait head of a statue; back dressed flat to fit side of head; h. $6.9+$ cm.; w. 3.8 cm. Fig. 321.

15-12-35: alab.; model collar jar, dummy; type S-XVI a-m; h. 7.2 cm.; d. top, 2.3 cm.; d. collar, 2.5 cm.; d. body, 3.6 cm.; d. base, 1.8 cm. Fig. 321.

15-12-36: alab.; model bowl with flat bottom; type S-X a (1); h. 1.6 cm.; d. 5.2 cm.; d. base, 1.0 cm. Fig. 321.

15-12-37: flint flake; length 7.2 cm.; w. 1.9 cm. Fig. 321.

15-12-38: copper; model blade with both ends rounded (butt wider than tip); two disconnected ends; length, $8.0+4.8 = 12.8+$ cm. with a probable length of c. 20 cm.; w. butt 1.8 cm.; w. near tip, 0.6 cm. Fig. 321.

15-12-39: copper; model saucer; d. 12.2 cm.

- 15-12-40: w. lst.: irregular ball with scratched surfaces: h. 7.6+ cm.; d. 8.2 cm. Fig. 321.
 15-12-41: BrW; model collar jar, type B-LVI a; h. 7.9 cm.; d. top, 3.6 cm.; d. collar, 4.2 cm.; d. body, 4.6 cm.; d. base, 3.0 cm. Fig. 321.
 15-12-42: BrW; degenerate model jar, type B-XLIX b; h. 7.5 cm.; d. collar, 3.6 cm.; d. body, 4.2 cm.; d. base, 3.4 cm. Fig. 321.
 15-12-43: RW; 2 models of neckless shoulder-jar, type B-LV b-m; h. 5.4 cm.; d. rim, 3.6 cm.; d. max., 6.0 cm.; d. min., 2.6 cm.; d. base, 3.2 cm. Fig. 321.
 15-12-44: RW; 2 model saucers of type LXXIX a.
 15-12-45 a: RP; frags. of two or more large basins with tubular spout, type D-XXXV a; d. 30-40 cm.
 15-12-45 b: RP; round-bottomed bowl with high recurved rim; type C-XXXII b; d. 20 or more cm.

Later Constructions:

The street, the avenue, and the space south of G 4510 are occupied by small and medium mastabas of the secondary cemetery; the street east of G 4510 is divided by an E-W wall faced with u-masonry on the south, which crosses the street from west to east just south of the rubble chapel of G 4510.

North of this cross wall stand, from south to north, G 4515, G 4514, and against the north end of G 4510 stands G 4518 and west of it G 4511.

South of the cross wall ran an E-W corridor, probably roofed, which in the east end connected with the N-S corridor of G 4516 and on west entered another N-S corridor extending to the end of G 4510, where it entered the chapel of G 4513; this corridor was certainly roofed. Thus the chapels of G 4516 and G 4513 were clearly connected and walled off from the northern area.

South of the cross wall stand G 4516 on north and G 4512 on south; G 4517 was built against the south end of G 4512; G 4513 stands west of G 4512, built against the south end of G 4510; with portico chapel opening on a roofed corridor opening into winding corridor giving access to G 4516 and entered from south; G 4519 stands west of G 4513, built against the south end of SW corner of G 4510.

Of the northern mastabas, G 4514 was probably the earliest; all the southern mastabas were separated from this and the other northern mastabas by the cross wall and were certainly late in date; the southern mastabas appear to have been built in the following order: (1) G 4516, (2) G 4512, (3) the cross wall and the connecting passage, (4) addition G 4517 to G 4512, (5) G 4513, and (6) G 4519.

G 4610: row 1, line 6:

See Map 6 and Figs. 322 (shaft), 323 (objects).

See Pls. 72 c-e, 74 a.

Excavated: March 11th-22nd, 1914; November 14th-23rd, 1915.

Mastaba: core type IV i, not cased; 23.0 × 10.0 m.; area 230.0 sq. m.; prop. 1/2.3; h. 4.15 m., 3-4 courses.

Chapel: the east face of the core is covered with later structures, with G 4612 over the usual place of an exterior chapel; thus no trace of a chapel was found but there was probably a one-roomed rubble chapel of type (1 d).

Shaft G 4610: sole shaft; 2.1 × 2.1 m.; lined with massive masonry, 4.15 m., 5 courses; smaller rock-cut shaft in NW corner, 1.7 × 1.75 m.; -5.15 m. in rock; above the smaller shaft is lined with rubble resting on rock ledge, carried up to a height of 0.95 m. above rock.

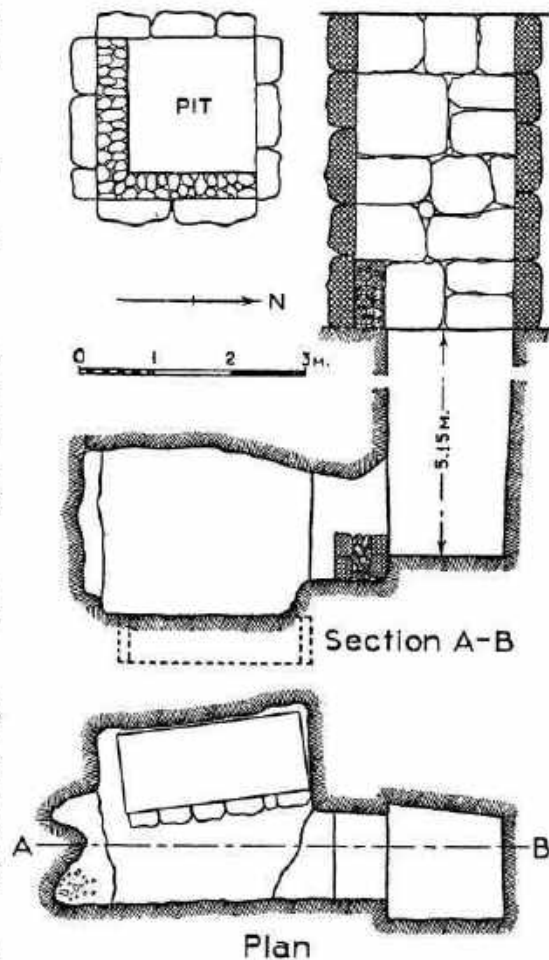


Fig. 322. G 4610 A

Chamber: type 4 b (1); on south; 2.9×2.35 m. and 2.2 m. high; area, 7.25 sq. m.; capacity, 15.95 cu. m.; roof irregular, sloping up to south.

Passage: 0.95×1.1 m. and 1.3 m. high; rough sloping step down from floor of passage to floor of chamber, 0.45 m. step down from shaft to passage, 0.3 m.

Blocking: interior blocking of two walls of masonry bound with plaster and filled between with rubble; type II b (1); filled upper part broken out.

Coffin pit: along west side; 2.45×1.05 m. and 0.65 m. deep; lined on east side with masonry set in plaster.

Plundered: in thieves' debris, a skull and scattered objects with large group of alabaster models.

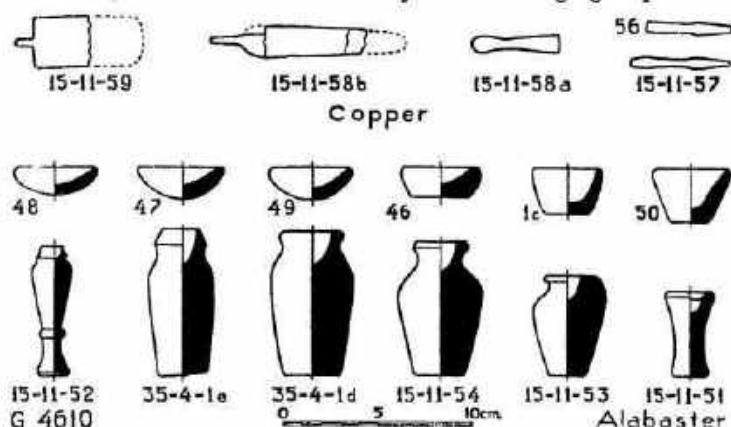


Fig. 323

Objects: found in thieves' debris on floor of chamber.

Type S-I d: cylindrical jar with concave sides; 4 examples:

15-11-51: alab.; dummy, rim not clearly marked; 2 examples; h. 4.5 cm.; d. top, 2.6 cm.; d. min., 1.6 cm.; d. base, 2.0 cm.; (b) h. 3.9 cm.; d. 2.3 cm. Fig. 323.

35-4-1 f: alab.; like 15-12-51; (a) h. 4.6 cm.; d. top, 2.2 cm.; d. min., 1.6 cm.; d. base, 2.1 cm. Pl. 74 a (4/3); (b) h. 4.0 cm.; d. 2.2 cm.; Pl. 74 a (4/7).

Type S-XIV b: model one-handed jug with unpierced handle; 1 example:

15-11-53: alab.; h. 5.3 cm.; d. rim, 2.4 cm.; d. body, 3.6 cm.; d. base, 1.8 cm.; w. with handle, 3.8 cm. Fig. 323.

Type S-XV a: model shoulder-jar with neck; 4 examples:

15-11-54: alab.; h. 7.1 cm.; d. rim, 3.0 cm.; d. neck, 2.4 cm.; d. body, 4.6 cm.; d. base, 2.8 cm. Fig. 323.

15-11-55: alab.; h. 7.5 cm.; d. rim, 3.2 cm.; d. neck, 2.6 cm.; d. body, 4.0 cm.; d. base, 2.4 cm.

35-4-1 d: alab.; 2 examples; (a) h. 7.5 cm.; d. rim, 3.4 cm.; d. neck, 3.0 cm.; d. body, 4.4 cm.; d. base, 3.0 cm.; (b) h. 7.7 cm.; d. rim, 2.9 cm.; d. body, 4.9 cm.; d. base, 2.9 cm. Pl. 74 a (4/5, 6), Fig. 323.

Type S-XVI a: model collar jar; 1 example:

35-4-1 e: alab.; h. 7.7 cm.; d. top, 2.2 cm.; d. collar, 2.8 cm.; d. body, 3.6 cm.; d. base, 2.7 cm. Pl. 74 a (4/4), Fig. 323.

Type S-XVI b: model collar jar, slender, on ring-stand; 4 examples:

15-11-52: alab.; 4 examples; h. 5.9-7.1 cm.; d. 2.1-2.6 cm.; (a) h. 6.8 cm.; d. top, 1.2 cm.; d. collar, 1.6 cm.; d. body, 2.0 cm.; h. ring-stand, 1.0 cm.; d. bottom, 1.4 cm. Fig. 323.

Type S-IX a: models of round-bottomed bowls of shallow form; 35 examples:

15-11-47: alab.; 4 examples; h. 1.4-2.1 cm.; d. 3.8-4.6 cm.; (a) h. 1.7 cm.; d. 4.6 cm. Fig. 323.

15-11-48: alab.; 8 examples; h. 1.1-1.4 cm.; d. 3.4-4.5 cm.; (a) h. 1.5 cm.; d. 4.3 cm. Fig. 323.

15-11-56: alab.; h. 1.4 cm.; d. 4.0 cm.

35-4-1 a: alab.; 22 examples; h. 0.9-1.9 cm.; d. 3.3-5.4 cm.; (a) h. 1.85 cm.; d. 5.35 cm. Pl. 74 a (rows 1 and 2).

Type S-X a (1): model basins with diam. over twice the height; 5 examples:

15-11-49: alab.; 5 examples; h. 1.3-1.7 cm.; d. 3.8-4.8 cm.; (a) h. 1.6 cm.; d. top, 4.0 cm.; d. base, 1.3 cm. Fig. 323.

Type S-X a (2): model basins with diameter less than twice the height; 19 examples:

15-11-50: alab.; 4 examples; h. 1.9-3.1 cm.; d. 3.6-5.1 cm.; (a) h. 2.9 cm.; d. 3.9 cm.; d. base, 2.0 cm. Fig. 323.

35-4-1 b: alab.; 13 examples: h. 1.4-2.8 cm.; d. 3.1-3.8 cm.; (a) h. 2.8 cm.; d. top, 3.8 cm.; d. base, 2.6 cm.

Pl. 74 a (3/1-4, 6, 8-11: 4/1, 2, 8, 9).

35-4-1 c: alab.; 2 examples: h. 2.4 cm.; d. 3.7 cm.; d. base, 2.0 cm.; (b) h. 2.4 cm.; d. top, 3.6 cm.; d. base, 2.2 cm.

Pl. 74 a (3/5, 7), Fig. 323.

Type S-X b: model basin with convex sides; 8 examples:

15-11-46: alab.; 8 examples: h. 1.3-2.0 cm.; d. 2.9-4.3 cm.; (a) h. 1.5 cm.; d. max. 3.9 cm.; d. base, 3.1 cm. Fig. 323.

SUMMARY: stone models, alabaster:

Jars: type I d, 4; XIV b, 1; XV a, 4; XVI, 5; total jars, 14.

Round-bottomed bowl: type IX, 35 models.

Basins with flat bottoms: type X a (1), 5; X a (2), 19; X b, 8; total 32 examples.

Sum total of models, 81 examples of which 14 were jars and 67 basins and bowls.

Copper model tools: 8 models (4 chisels, 2 adzes, 1 knife, 1 razor).

15-11-56, 57: copper, 4 models of broad chisel; length, 4.6-6.9 cm.; w. 0.5-0.6 cm. Fig. 323.

15-11-58 a: copper; 2 model adzes; length, 4.6 cm.; w. edge, 4 mm.; w. butt, 4 mm. Fig. 323.

15-11-58 b: copper; model of knife with haft; incomplete; length, c. 10.2 cm.; w. max., 1.6 cm. Fig. 323.

15-11-59: copper; rectangular razor with shaft on butt; incomplete; length, 3.8+ cm.; w. 2.8 cm. Fig. 323.

Miscellaneous Objects:

15-11-60: gold; frag. of thin gold leaf; 7.5 × 1.2 cm.

15-11-61: BrW; frag. of rim of shallow dish with rim moulded (perhaps type LXIII a); 11.3 × 10.4 cm.

Later Constructions:

The later constructions are dominated by G 4611, a large mastaba of net area 108.8 sq. m.; type VIII c with decorated interior chapel of type (5 a) of man named *Niwty*; this mastaba fills the south end of the street east of G 4610 and extends southwards into the avenue south of row 1; the small mastabas, G 4612, G 4613, and G 4614-5 are certainly late in date; all of Dyn. VI.

G 4612: a small stone mastaba built against the east face of G 4610 at south end and against the north end of G 4611.

G 4613: small stone mastaba built against the east face of G 4611 (north of doorway to chapel) and against the south end of G 4710 near SW corner.

G 4614: small stone mastaba west of G 4611 with passage between and built against the south end of G 4610; earlier than G 4512-4516, west of it.

G 4615: small destroyed stone mastaba built against the south end of G 4614.

G 4616: in avenue north of G 4610: small composite mastaba partly of c.b. and partly of rubble: built against the south end of G 4620.

G 4710 = L. G. 49: row 1, line 7; last core in row:

See Map 6 and Figs. 324 (shaft), 325 (objects).

See Pl. 72 f, 73 a-c; 74 b to d, 75 a, b.

Excavated: March 6th-10th, 1914; November 20th-24th, December 4th, 1915.

Owner: Sethuw, *šmr werty, hry ḥ, hry ššr n pr Dwt, hry wdb ht-ḥh, hry tp Nhḥ*.

Mastaba: core type IV-i, with recess broken out for interior chapel and cased with nummulitic masonry converting the mastaba into type VI a; the core could not be measured; final mastaba, 24.6 × 11.6 m.; area, 285.36 sq. m.; prop. 1/2.12; h. 4.5 m.

Chapel: interior one-niched offering-room of type (3 a) built partly of white limestone and partly of nummulitic (mixed); with subsidiary north niche; with exterior c.b. chapel of type (1 f) containing three rooms (b-d).

(a) N-S offering-room of type (3 a); 3.15 × 1.15 m.; area, 3.62 sq. m.; prop. 1/2.74; relation, 1/78.82; with niche near south end of west wall; entered from east from room (b) by doorway in north end of east wall; decorated in relief.

(b) in c.b.: large N-S hall around doorway embrasure of room (a); 4.55 × 2.6 m.; area, 11.83 sq. m.; entered from east from room (c) by doorway in north end of east wall; in SE corner an offering-table with slab removed.

(c) of c.b.: N-S vestibule corridor; 4.3 × 1.0 m.; area, 4.3 sq. m.; entered from east by doorway in middle of east wall; in SE corner, a compound niche facing to west, built later against the east and south walls of the room; doorway to room (b) in north end of west wall; doorway to magazine (d) in north wall.

(d) of c.b.: E-W magazine north of rooms (b), (c); 1.55×4.4 m.; area, 6.82 sq. m.; entered from (c) by doorway in east end of south wall.

Total area, (b)-(d), 22.95 sq. m.

Total area, (a)-(d), 26.57 sq. m.

Decoration of Inner Offering-room (Lepsius, *Denkmäler*, Pls. 86 b, 87; *Ergänzungsband*, pl. xxvii b):

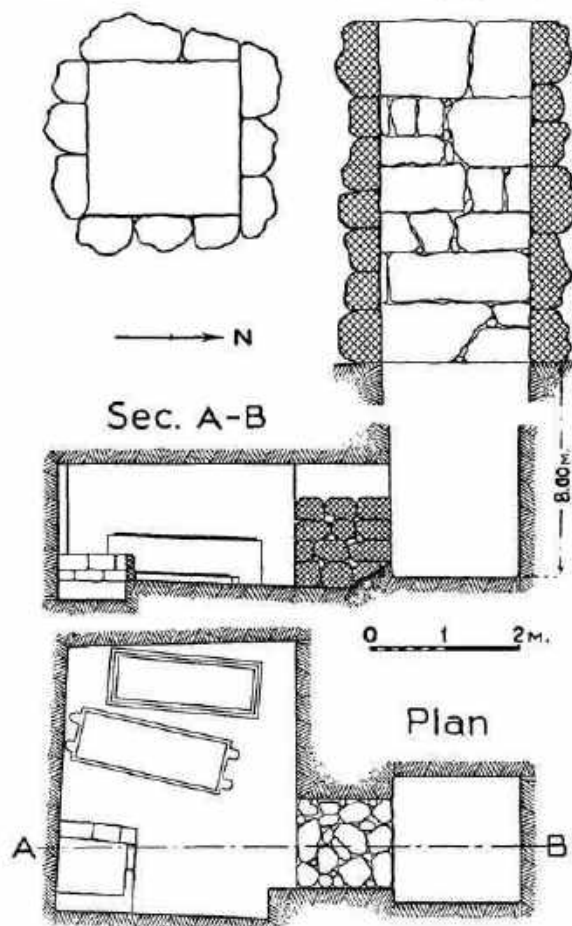


Fig. 324. G 4710

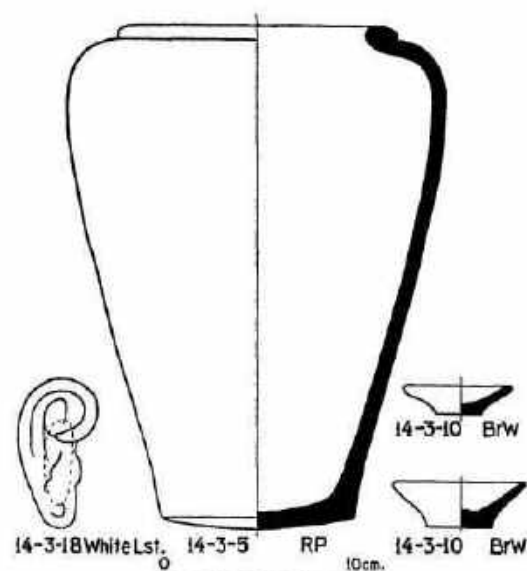


Fig. 325. G 4710

West wall: south *ka*-door (Architrave and part of *ka*-door in Berlin Museum; tablet in the Brooklyn Museum, from the Collection of the New York Historical Society):

Architrave: offering formula, titles and name in short vertical lines: *dī nswt htp, rdi Inpw htp, hnty sh ntr, krs, m smyt imnt-t, nb imsh*, titles and name.

Tablet: Sethuw seated at table of bread facing to right; short wig and long robe; left hand on ties of robe and right extended to table; ideographic list under table; above the table is a row of vertical lines containing the short list and to the right of the table are five rows of vertical lines continuing this list: all read from right to left with signs facing to right: upper row, (1) *sntr*, (2) *wšdw*, (3) *mšdmt*, (4) *štī-hb*, (5) *hknw*, (6) *nḥnm*, (7) *sft*, (8) *hṯp nswt*, and below *hṯp nswt wšht*. See Pl. 74 b.

Tablet, flange on right (north): woman standing facing to left; lappet wig and long tunic; right hand on breast and left hanging open: labelled *hm ntr Ht-hr, hm ntr Nt wpt wswt mḥt-t inbw, rht nswt Nb-hṯp*, wife of Sethuw.

Tablet, flange on left (south): two figures; above a naked boy with finger to mouth, standing facing to right, labelled, *rht nswt s-f Stw*; below, a girl stands facing to right, with left hand on breast and right hanging, labelled, *rht nswt Pth-hp-kṣ*.

Crossbar: signs facing to right: *dī nswt htp Inpw hnty sh ntr krs m smyt imnt-t nb imsh* *šw nfr wri prt-hrw r nb hb (nb) . . . , smr, hrp ch Stw*.

Drum: *šmr wty, hrp rh, hry ššt n pr dwt, hry wdb ht-tnh Stw.*

Inner niche not decorated.

Back of outer niche: on left (south); Sethuw standing facing in to right, with staff and wand; short wig, short skirt; amulet on neck; above, titles and name in three short vertical lines.

Back of outer niche: on right (north); wife standing facing in to left with right hand on breast and left hanging open; lappet wig and tunic; above, titles and name in four vertical columns: (1) *rlt nšwt*, (2) *hm ntr Ht-hr*, (3) *hm ntr Nt*, (4) *Nb-Htp*; in front of her, small naked boy facing to left, *sf n ht-f Stw.*

Side of outer niche: on left (south); vertical row of three men, standing in respectful attitudes facing in to right: (1) arms folded on breast, *šš šn-dt Tnti*; (2) with arms crossed on breast; (3) with arms hanging at sides.

Side of outer niche: on right (north); three standing men in vertical row, facing in to left; (1) censing, *kꜣp sntr*; (2) man leaning over and holding cup (?) over basin on stand; (3) man in similar attitude to (2).

West wall: north of *ka*-door; presentation scene (Pl. 75):

Large standing figure of Sethuw at north end of wall facing to left; with staff and wand; short wig, short skirt and panther skin; inscribed above in three short vertical lines: *šmr wty, hrp rh, hry tp Nhb Stw.*

To the left of Sethuw, four registers of figures facing to right: (1) two scribes, three men bringing animals, and ten estates, alternately female and male; the register continues to the south over the architrave of the niche (now missing); names of estates not given; (2) two men making libation or purification with water; three men bringing food-offerings; (3) man heads a procession of five others bearing mainly personal equipment; (4) four men carrying live birds, three carrying young animals, and the eighth man a ewer and basin.

North, south, and east walls: not decorated.

Door-jamb on north (upper part now destroyed, Pl. 74 c, cf. Lepsius, *l.c.*, Pl. 86 b): Sethuw seated at table of bread facing out to right; short wig, collar and long robe; left hand on shoulder tie and right hand extended; above five vertical lines: (1) *dī nšwt htp prt-hrw rꜣ nb hb nb*, (2) *Dhwtyt Wg ibd . . . nt*, (3) *rkꜣ prt-Mnw wih rh*, (4) *šmr wty hry ššt pr dwt*, (5) *hrp rh Stw*; under table ideographic list (bread, beer, and cakes, head of oryx and calf, ointment and linen). To the right of the table two registers:

(1) one standing figure facing to left in *hry wdb* attitude, labelled *hry-wdb wd iht* (det. bread, beer, and cakes).

(2) two figures: (a) kneeling on left knee with right arm raised, bent at elbow and fist clenched, *šmnt šh wt*; (b) kneeling on left knee, holding out a cake in right hand and a *mw*-pot in left, *wꜣpw hnty wr*.

Door-jamb on south (upper part now destroyed, Pl. 74 c, cf. *op. cit.*, Pl. 86 d): Sethuw seated at table of bread facing out to left; short wig, collar, and *hry-hb* sash; short skirt; above four vertical lines, facing to left; (1) *dī nšwt htp prt-hrw* as on north, with shorter list of festivals; under table ideographic list (bread, beer, cakes, ointment and linen, head of bull, calf, and two birds); on the left of the table a small figure standing facing to right, holding out basin in right hand and holding a pellet of natron (?) between fingers of left hand over the basin.

Drum over entrance doorway (now missing): in seven vertical lines: (1) *šmr wty hrp rh*, (2) *hry ššt*, (3) *n pr dwt*, (4) *hry tp Nhb*, (5) *imšhw*, (6) *hr nb-f*, (7) *Stw*.

Architrave over entrance (now missing): on left end (south) seated figure facing to right with left hand on breast and right hand half extended; short wig, long robe (?); offering formula in sixteen vertical lines: (1) *dī nšwt htp*, (2) *Inpw hnty šh ntr*, (3) *hrs*, (4) *m smyt imnt-t*, (5) *nb imšh*, (6) *hr ntr rꜣ*, (7) *šw nfr wrt*, (8) *prt-hrw rꜣ nb*, (9) *šmr, hrp rh*, (10) *hry tp Nhb*, (11) *(hry tp) dwt*, (12) *hry ššt*, (13) *pr dwt*, (14) *hry wdb ht-tnh*, (15) *nb imšh*, (16) *Stw*.

Shaft G 4710 A: sole shaft; 2.05 × 2.05 m.; contracting to 1.7 × 1.7 m.; at bottom; —8.0 m. in rock; lined above with massive masonry, 4.5 m.; large and small blocks irregularly set.

Chamber: type 4 a (2) x; on south; 3.1 × 3.6 m. and 1.6 m. high; area, 11.16 sq. m.; capacity, 17.85 cu. m.

Passage: 1.25 × 1.2 m. and 1.25 m. high on shaft side and 1.65 m. on chamber side owing to sloping floor.

Blocking: interior rough stones and rubble set in plaster type II cd (1) apparently removed by thieves.

Coffin: along west side; white limestone coffin with flat lid (type d): outside, 2.0 × 0.73 m. and 0.6 m. high; inside, 1.8 × 0.53 m. and 0.5 m. deep: height of lid, 0.09 m.

Canopic pit: in SE corner, partly built and partly sunk in floor; 0.9 × 0.75 m. and 0.6 m. deep (—0.2 m. in rock).

Plundered: objects scattered on floor: frags. of human bones found in hard dust in coffin.

Objects: found intrusive in shaft:

14-3-17: alab.; frag. of foot of statuette; 8.1 × 5.0 × 3.5 cm.

Objects: found in thieves' debris partly in shaft and partly in chamber:

14-3-18: w. lst.: ear from head ('reserve-head' or statue), dressed flat on back, possibly attached with plaster; h. 6.9 cm.; w. 3.5 cm.; thickness, 2.0 cm. Found in chamber. Pl. 69 f. Fig. 325.

Pottery:

Group A:

Type A-II b: large wine jar; frags. of 1 example:

14-3-9: WSR; frag. from neck and top of body.

Group B: type B-LV b: neckless shoulder-jar; 2 large examples:

14-3-5: RP; 2 examples; h. 26.6 cm.; d. rim, 14.8 cm.; d. shoulder, 20.0 cm.; d. base, 10.2 cm. Fig. 325.

Group C:

Type C-XXVII: shallow dish with rim widened, flat on top; 2 examples:

14-3-8: BrW; frags., 2 of rim.

14-3-12: BrW; frag. of another deeper dish.

Type C-XXXII a: round-bottomed bowl with recurved rim; frags. of one or more:

14-3-6: RP; frags. of one or more.

Type C-LXI e: bowl with plain rim; 1 example.

14-3-7: RBrW; wet smoothed; frags. including rim.

Group D:

Type D-LXXIX a: model basins, shallow; 40 examples (20 incomplete):

14-3-10: BrW; 40 examples; h. 1.5-2.4 cm.; d. 5.9-6.9 cm. Fig. 325.

SUMMARY OF IDENTIFIED TYPES:

Group A: type II b, 1; total 1 jar.

Group B: type LV, 2; total 2 jars.

Group C: type XXVII, 2; XXXII, 1+, LXI e, 1; total 4+ examples.

Group D: type LXXIX, 40; total 40 model basins.

Sum total, 47+, of which 3 are jars, 4+ bowls, and 40 model basins; total types 6.

Unidentified pottery vessels:

14-3-11: RP; frags. of jar of type A-VI or B-XVII.

14-3-13: RW; frag. of rim perhaps type A-IV.

14-3-14, 15: 21 small frags. of various wares.

Later Constructions:

G 4711: a medium mastaba of z-masonry built against the east face of G 4710 north of chapel with passage left between it and north end of exterior c.b. chapel.

The core G 4810 was never built and the site east of G 4710 and G 4711 is occupied by a complex of mastabas numbered G 4811-4813; southwards the secondary cemetery is continued with small obscure mastabas, partly destroyed, numbered G 4814-4818.

West of these southern mastabas and south of 4710 and its exterior chapel stand two medium-sized mastabas on independent sites, G 4712 and G 4714; G 4712 belonged to a Queen Ne-ma'at-hap; G 4714, immediately east of G 4712, belonged to a Princess (*sit nswt nt ht-f*) Nefer-hetep-s; I would date both mastabas to Dyn. V between Neferirkara and Newesera or a little later, that is after G 4710 and before the complex G 4811-4813; against the east face of G 4714 north of the exterior c.b. chapel was built a small mastaba (G 4715) of a person related to Princess Nefer-hetep-s.

G 4712 a: a small destroyed mastaba with its SE corner overbuilt by G 4712.

G 4713: obscure rubble construction built against the north end of G 4714 and the back of G 4811; later than either.

INDEX

- 'BD-EL-LATIF: Arab historian, p. 20.
 AGRICULTURAL SCENES: p. 358.
 ANNEX-MASTABAS: p. 52.
 ARCHAIC CEMETERY AT SAQQARAH: p. 1.
 ARCHITECTURE: translation of the c.b. architecture into stone, p. 5.
 ARCHITRAVES: of entrance doorways, p. 315.
 AVENUE: definition of, p. 61; width of, in Western Field, p. 62; width of, in Cem. G 7000, pp. 63-4.
 BALDENSEL, WILLIAM OF, p. 21.
 BELZONI: p. 21.
 BENT-ENTRANCE: in chapels, pp. 8-9.
 BIOGRAPHICAL INSCRIPTIONS: p. 35.
 BIRD-NETTING SCENES: p. 356.
 BOATING SCENES: in L-shaped chapels, pp. 325-6; in early rock-cut chapels, pp. 353-4.
 BOATS BRINGING SWAMP PRODUCTS: fighting boatmen, pp. 357-8.
 BORCHARDT, LUDWIG, pp. 2, 3, 22.
 BURIAL CHAMBERS:
 Blocking: type I a (portcullis slab), pp. 168-71.
 types II-VI, pp. 171-5.
 plug-stones used in pyramids and shafts of type 9, p. 171.
 Chronological order of types of shafts and burial chambers, pp. 91-2, 101-3, 109, 147-50.
 Classification of, at Giza, pp. 86-103.
 Comparative list of, p. 120.
 Comparison of, in pyramids and mastabas, pp. 121-39.
 Cost of excavation, pp. 101-3.
 Dating of, p. 31; in Cem. G 4000, p. 111.
 Description of, in Cem. en Échelon, pp. 142-5; in Cem. G I-S, p. 146; in queens' pyramids, pp. 129-34; in kings' pyramids, of Dyn. IV, pp. 138-9.
 Distribution of types of burial chambers in the nucleus cemeteries at Giza, pp. 106-21, 126, 127, 140-6.
 Intrusive, in older mastabas, p. 15.
 of the Ptolemaic-Roman period, p. 15.
 Lateral, in rock-cut chapels, pp. 220-44 (*passim*).
 Lining of, development of, p. 86.
 Lining of white limestone at Giza, pp. 86, 103-5.
 Methods of excavating in rock, p. 102.
 Minor features of burial chambers: *see* Canopic pits and recesses, Coffin pits, 'Window', Turning recess, Blocking, and Filling, pp. 155-76.
 Orientation of in Dyns. I-IV, pp. 86-7.
 Position of the chamber in relation to the shaft, p. 89.
 Queens' Pyramids, burial chambers, p. 135.
 Sizes of, in fifteen initial mastabas, pp. 106-7.
 in Cem. G 4000, p. 111.
 in Cem. G 2100, p. 112.
 in Cem. G 1200, p. 114.
 in Cem. G 7000, pp. 118-20, 125-7.
 comparison of sizes in three nucleus cemeteries of Western Field and in Cem. G 7000, pp. 140-1.
 in Cem. en Échelon, pp. 143-4.
 in pyramids of queens, pp. 135-6.
 in pyramids of kings of Dyn. IV, pp. 136-8.
 Two-room burial chambers, pp. 121, 139.
 Types of, pp. 85-103; nine types used in the Old Kingdom at Giza, pp. 87-9; variation in form and designation, p. 91; made in the reign of Chephren, p. 126.
 Type 1, pp. 92-3, 122-3.
 Type 2, pp. 93, 123-4, 129-35; origin and date, p. 135.
 Type 3, pp. 94, 125.
 Type 4, p. 94.
 Type 5, pp. 94-5.
 Type 6, pp. 95-7.
 Type 7, pp. 97-8.
 Type 8, pp. 98-101.
 Type 9, pp. 101, 150-5.
 Which contained stone coffins, pp. 166-8.
 Which might have contained stone coffins, p. 168.
 CANOPIC CHEST: of Queen Hetep-heres I, pp. 155-6; in royal tombs, p. 156; built chests, pp. 156, 159.
 CANOPIC JARS: p. 159.
 CANOPIC PIT: pp. 105, 155-62.
 CANOPIC RECEPTACLES: pp. 160-2.
 CANOPIC RECESS: pp. 155-62.
 CAPITAL-CITIES OF EGYPT: in Dyns. I-III, p. 1.
 CASING OF MASTABAS: pp. 9, 178-83; types of, p. 178.
 CAUSEWAY: used in the construction of a mastaba; in the Cem. en Échelon, pp. 69 (footnote), 82.
 CAUSEWAY OF CHEOPS PYRAMID: p. 16.
 CAVIGLIA: p. 21.
 CEMETERIES AT GIZA:
 Nucleus cemeteries of the Western Field:
 Cem. G 1200, pp. 13, 68.
 Cem. G 2100, pp. 13, 66-7.
 Cem. G 4000, pp. 13, 66, 78-80.
 Cem. en Échelon, pp. 13, 69, 81-2; definition of Cem. en Échelon, p. 69.
 Nucleus cemeteries of the Eastern Field:
 Cem. G 7000, pp. 70-4.
 Cem. G I-S, pp. 17, 74, 82-3.
 CEMETERIES OF MEMPHIS: p. 1.
 CHAPEL RECESS, p. 9.
 CHAPELS IN MASTABAS:
 Classification of types (1)-(13), pp. 184-6.
 Types (1 a)-(1 d), pp. 187-200.
 Type (2), pp. 200-2.
 Types (3 a)-(3 b), pp. 203-11, 249, 296.
 Type (4 a), pp. 211-18.

CHAPELS IN MASTABAS (*contd.*):

- Type (4 b), pp. 249-56.
- Types (5 a)-(5 c), pp. 249-51, 255-60.
- Types (6 a)-(6 c), pp. 218, 247-8.
- Types (7 a)-(7 e), pp. 255, 260-72.
- Types (8 a)-(8 g), pp. 272-83.
- Types (9 a)-(9 d), pp. 283-4.
- Types (10 a)-(10 c), pp. 284-5.
- Types (11 a)-(11 c), pp. 285-8.
- Type (12), pp. 288-91.
- Type (13), pp. 291-2.
- Chronological order of types of chapels at Giza, p. 304.
- Cruciform chapel at Giza, type (6), pp. 247-8.
- Dating of chapels by inscriptions, p. 31.
- Decoration of, *see* DECORATION.
- Development of, pp. 183, 292-304.
 - Development of, previous to Cheops, p. 183.
 - Development in Dyns. IV-VI, pp. 292-304.
 - History of c.b. chapels in Dyns. I-III, pp. 292-4.
- Distribution of types, in the initial fifteen mastabas of the nucleus cemeteries of the Western Field, pp. 294-5; in the twenty-eight mastabas following the initial mastabas, pp. 295-6.
- Exterior chapels of c.b., types (1 a)-(1 d), pp. 197-9; chronology of, p. 199.
- Exterior chapels, *see* types (1 a)-(1 h), (2 a), (2 b), (8 a)-(8 g), (9 a)-(9 d).
- Interior chapels, introduction of at Giza, pp. 8, 72. *See* types (3)-(7), (10)-(13).
- Introduction of types (5), (7)-(13) in Dyn. V, pp. 301-2.
- L-shaped chapels in stone mastabas at Giza, pp. 8, 9, 183.
- Niches, number of in chapels, pp. 183-4.
 - origin of two-niched chapels at Giza, p. 299.
 - transition from one-niched chapels to two-niched chapels, pp. 297-300.
 - use of two niches in RC chapels of Chephren family, pp. 300-1.
- Offering-room, interior or exterior in chapels of Dyn. IV, p. 183.
- Saqqarah, chapels of, compared with chapels at Giza, pp. 184, 302-4.
- Summary of chapels of Dyns. V-VI, pp. 255-6.
- CHAPELS, ROCK-CUT, pp. 219-47, 301:
 - Classification, types RC (i)-(vi), pp. 220-44.
 - Origin of separate types, pp. 219, 245-7.
 - Effect on mastaba chapels, pp. 300-1.
 - Date of examples in Middle and Upper Egypt, p. 220.
 - Orientation of, determined by the wall containing the niches, p. 220.
- CHEOPS: his family, p. 2; his pyramid, *see* PYRAMID.
- CHEPHREN: the cemetery of his family in the Cheops-Chephren quarry, p. 18; his pyramid, *see* PYRAMID.
- CHRONOLOGY: of the Giza pyramids, p. 10.
 - of the nucleus cemeteries of the Western Field, pp. 14, 74-84.
 - of the secondary mastabas of the Western Field, p. 14.
- CITY: pyramid city of Mycerinus, p. 18.

CLASSICAL WRITERS: references to the Giza Necropolis, p. 20.

COFFIN-CHAMBERS: pp. 121, 139.

COFFIN-RECESS: pp. 121, 163.

COFFINS: of alabaster, p. 166; of granite, pp. 115, 116, 118, 119, 121, 125-7, 146, 151, 152, 154, 155, 159, 162, 163, 166-8; of limestone, pp. 110, 115, 118-20, 127, 146, 152, 154; of wood, pp. 145, 153; destroyed in queens' pyramids, p. 135.

COMPARTMENT-LIST: of offerings, late form, pp. 368-9.

CONCESSIONS: for excavations at Giza, p. 22.

CONSTRUCTION LINES; red, in burial chambers, pp. 105, 114, 124.

COPYISTS: of reliefs at Giza in the nineteenth century, p. 22.

CORE-MASTABAS: of the nucleus cemeteries in the Giza Necropolis:

Classification of, types II-IV, p. 39-41.

Chronological order of types, pp. 56, 66-77.

Construction of:

alteration of the original twelve cores in Cem. G 7000 to form the cores of the twin-mastabas, pp. 72-3.

building stones used, p. 37.

materials and construction, pp. 37, 38.

preparation of foundations, p. 27.

two kinds of core-work, pp. 65-6.

used as finished mastabas or intended to be cased, p. 177.

Dating by slab-stelae, p. 31; table of core-mastabas by dates, pp. 83-4.

Proportions of core-mastabas, p. 61.

Sizes of, pp. 56-61.

Normal size in the Western Field, p. 57.

In twin-mastabas in Cem. G 7000, p. 58.

In the additions to Cem. G 7000, p. 59.

Final conclusions, p. 59.

In Cem. G I-S, p. 61.

DANCERS: *see* SCENES OF DANCING.

DEBRIS: dumps of, from pillaged shafts, p. 15.

'thieves' debris', in burial chambers and in shafts, p. 176.

DECORATION OF CHAPELS:

Decorated chapels, list of:

Types (2 a), (2 b), and (3), pp. 306-7.

Types (3), (4 a), (4 b), p. 311.

Type (5), pp. 312-13.

Type (6), p. 311.

Type (7), p. 313.

Type (10), p. 313.

Important RC chapels in the quarry cemeteries, p. 310.

Chronology of the decorated chapels:

Reign of Cheops: in Western Field, pp. 306-7; in the five finished twin-mastabas of the Eastern Field, pp. 307-8; *see also* SLAB-STELA.

Reign of Chephren: in the first addition to Cem. G 7000, p. 308.

DECORATIONS OF CHAPELS (*contd.*):Chronology of the decorated chapels (*contd.*):

Reign of Chephren or Mycerinus: in the second addition to Cem. G 7000, pp. 308-9; in Western Field, p. 309.

End of Dyn. IV or the early part of Dyn. V, pp. 310-12.

Middle of Dyn. V, in Shepseskaf-ankh complex, p. 314.

Dyn. V-VI, various chapels, p. 314.

Development of decoration of chapels in Dyns. I-III and Sneferuw, p. 305.

Enlarged chapels of Dyns. V-VI, pp. 360-6.

Ka-door, decoration of, *see* KA-DOOR.

L-shaped chapels, decorated parts of, pp. 314-30.

L-shaped chapels, decoration of west wall, pp. 344-6.

Lepsius, decoration of chapels recorded by, p. 22.

Rock-cut chapels, decoration of, pp. 346-60.

Scenes: types in chapels of Dyns. V-VI, pp. 366-71; *see* SCENES.

Sized technique, used in nummulitic chapels, p. 361.

Slab-stelae in chapels of the reign of Cheops, p. 306.

DECREE OF PEPSY II, p. 2.

DÉSCRIPTION DE L'ÉGYPTE, p. 21.

DOOR-JAMBS: decoration of, *see* SCENES.

drty: p. 371.

DRUMS: decoration of, *see* SCENES; *see* KA-DOOR.

DUMPS OF DEBRIS: from pillaged shafts, p. 15.

EDGAR: JOHN AND MORTON, *Great Pyramid Passages*, p. 22.

ESTATES: names including the name of a king, pp. 34, 67.

EUROPEAN TRAVELLERS: accounts of the Giza Necropolis, p. 21.

EXCAVATIONS IN THE GIZA NECROPOLIS:

In the nineteenth century, p. 21.

Final excavation in 1902 to present time, pp. 22-6.

By the University of California, 1902-5, p. 23.

By the Harvard-Boston Expedition, 1905-39, pp. 24-5.

In the German Concession by Steindorff and Junker, p. 25.

In the Italian Concession by Schiaparelli, p. 25.

By the University of Pennsylvania, by Fisher, p. 25.

At the Sphinx by Baraize for the Department of Antiquities, continued by Selim Bey Hassan, p. 26.

By Selim Bey Hassan in the Cheops-Chephren Quarry and elsewhere, p. 26.

EXIT-SHAFT: for workmen leaving the grand gallery of the Cheops pyramid, p. 3.

FAÇADE PANELS: decoration of, *see* SCENES.

FACING OF MASTABAS: definition of, p. 177.

FALSE-DOOR STELA: pp. 377-8.

FAMILIES: reconstructed by inscriptions: use in dating, p. 35.

FAMILY CEMETERY:

Giza Necropolis as a family cemetery of the royal family, p. 27.

Three nucleus cemeteries in the Western Field as ceme-

teries of three branches of the family of Cheops, pp. 77-8.

FAMILY GROUPS: represented in chapel decoration, *see* SCENES.

FIELDS OF TOMBS: at Giza, p. 12.

FISH-SEINING: *see* SCENES.

FRAMED KA-DOOR: *see* KA-DOOR.

FUNERAL SCENES: *see* SCENES.

FURNITURE: representation of: *see* SCENES.

G 2000: largest mastaba in the Western Field, pp. 13, 68, 69, 81.

GLORIFICATION by the *wt* and the *hry-hb*, pp. 369-71.

GRANARIES: of c.b., in Queens' Street, p. 17.

GRANITE: in the Cheops pyramid, p. 3; coffins, pp. 121, 166-8.

HARMACHIS: identified with the Great Sphinx, p. 18.

HENUTSEN: queen of Cheops, buried in G I-c, p. 18.

Hry-hb: pp. 369-71.

HETEP-HERES I, QUEEN: mother of Cheops, p. 2.

HUNTING SCENE: *see* SCENES.

INSCRIPTIONS: significance, pp. 31, 36.

int rd: pp. 370-1.

INTRUSIONS: of the First Intermediate Period, p. 15.

of the Saite-Ptolemaic-Roman Period, pp. 15-18.

ISIS TEMPLE: p. 17.

JÉQUIER: p. 4.

JUNKER, HERMANN: p. 25.

KA-DOOR: analysis of the parts of the ka-door, pp. 330-72.

Decoration of, pp. 330-46.

Architrave: pp. 330-2.

Tablet, pp. 332-6.

Cross-bar, pp. 336-7.

Drum, pp. 337-8.

Back of inner niche, pp. 338-9.

Sides of inner niche, pp. 339-40.

Outer niche, back of, pp. 340-2.

Outer niche, sides of, pp. 342-4.

Additional decoration on west wall, pp. 344-6.

Development of the ka-door: monolithic and framed ka-doors, false-door stela, pp. 372-9.

KHENT-KAUWS, QUEEN: mastaba of, p. 18.

LECTOR PRIEST: pp. 369-71.

LEPSIUS, RICHARD: p. 22.

LIMESTONE: fine white, used in lining burial chamber and casing mastaba, p. 37; *see* casings x and y.

Nummulitic, two kinds in core mastabas, p. 37; *see* casings w, z, zu, and u.

Coffins, *see* COFFINS.

L-SHAPED CHAPEL: *see* CHAPELS.

MA'MÛN, CALIPH: p. 20.

MARIETTE, AUGUSTE: p. 22.

- MASONRY: types of, pp. 3, 5, 178.
- MASTABAS: of c.b. previous to Cheops, pp. 4-6.
 of stone previous to Cheops, p. 5.
 of stone at Giza, introduced by Cheops, pp. 6-9.
 Sizes of, *see* CORE-MASTABAS.
 Stages of construction, pp. 29-30, 85.
 Types of: types II-IV, *see* CORE-MASTABAS; types V-XI, p. 43 ff.
- MASTABAS: designated by number of burial shafts:
 one-shaft mastabas, p. 54.
 two-shaft mastabas, pp. 52, 54, 56.
 three-shaft mastabas, p. 54.
 multiple-shaft mastabas, p. 56.
 development from one-shaft to multiple-shafts, pp. 298-9.
- MASTABAS, FINISHED: in the Western Field:
 Initial mastabas of the three early nucleus cemeteries, pp. 75-6.
 Growth of the nucleus cemeteries, pp. 78-80.
 Mastabas made by casing old cores, pp. 60-1.
 Mastabas of large size outlying in the Western Field, pp. 60-1.
- MASTABAS, SECONDARY: in Western Field, p. 14; in Eastern Field, p. 16.
 in Cem. G I-S, p. 17; in the Cheops-Chephren Quarry, p. 18; in the streets of the nucleus cemeteries, p. 14.
- MASTABAT EL FARAON: p. 4.
- MENES: tomb of his reign at Saqqarah, p. 1.
- MONTET: excavations at Abu Roash, p. 5.
- MORGAN, DE: excavations at Dahshur, p. 5.
- MUD-SEALINGS: p. 31.
- MUMMIFICATION: evidences of, p. 156.
- NAMES COMPOUNDED WITH NAME OF KING: p. 33.
- nfrw*-LEVEL: pp. 56, 58, 61, 64.
- NORMAL SIZE OF MASTABAS OF TYPE I: pp. 122-3.
- NUCLEUS CEMETERIES: at Giza, *see* CEMETERIES.
- OFFERING-NICHES: *see* KA-DOOR:
 Absence in the early stone mastabas, p. 7.
 Number of, in chapels, pp. 183-4.
 Origin of two-niched chapel at Giza, p. 299.
 Transition from one-niched chapels to two-niched chapels, pp. 297-300.
 Use of two niches in RC chapels, pp. 299-301.
- OFFERING-PLACES: intruded in sand after Dyn. VI, p. 15.
- OFFERING SCENE: *see* SCENES.
- OWNERSHIP: marks of and the assignment of core-mastabas, pp. 64-6.
- PALACE-FAÇADE PANELLING: pp. 379-83.
 In pyramid temples at Giza, p. 380.
 On the face of mastabas, pp. 380-1.
 On exterior walls of chapels, p. 381.
 Panelling in alcoves of early RC chapels, p. 381.
 Palace-doors as chief niches in chapels of type (3b), pp. 381-2.
 On west wall of chapels beside niches, p. 382.
 Significance of palace-doors in chapels, pp. 382-3.
- PAVILION-SCENES: *see* SCENES.
- PERRING, J. E.: p. 22.
- PETRIE, SIR W. F.: pp. 8, 22.
- PILLAGING: pp. 14, 17, 19.
- PORTCULLIS-GROOVES: in shafts in Cem. G 2100, p. 67.
- PORTCULLIS-SLAB: pp. 168-71.
- PORTER AND MOSS: *Bibliography*, Vol. III, *Memphis*, p. 22.
- PRESENTATION SCENE: *see* SCENES.
- PROMONTORY, ROCK: at Giza, altered by quarrying and constructions; original form, pp. 10-11.
- 'PRÜNKSCHEINTÜR': pp. 380-2.
- PYRAMID-MYSTICS: p. 21-2.
- PYRAMIDS: Cheops pyramid, pp. 2-3, 20.
 Chephren pyramid: p. 4; opened by Belzoni, p. 21.
 Mycerinus pyramid: p. 4; opened by Vyse, p. 21; destruction of, pp. 20-1.
 Radedef pyramid: pp. 4, 28.
 Sneferuw pyramid: p. 2.
 Queens' pyramids: pp. 3, 16-17, 70-1, 72, 134-6; burial chambers of, p. 135.
- QUARRIES: at Giza, pp. 11-12, 18, 38, 219.
 Cemetery in the Cheops-Chephren Quarry, p. 219.
 Cemetery in the Mycerinus Quarry, p. 18.
- QUARRYING OF STONE AT MEMPHIS: in Dyns. I-II, p. 5.
- RADEDEF: his cemetery at Abu Roash, p. 28.
- REISNER: original concession at Giza, p. 22.
- RELIEFS: sized technique, p. 245.
- ROYAL TOMBS: from Menes to Sneferuw, p. 1.
 First royal tomb at Saqqarah, The Step Pyramid, p. 1.
 Development of in Dyns. I-III, p. 2.
 Tombs of members of the royal family, line of development, p. 300.
- 'RESERVE-HEADS': p. 65.
- SAND: deposited in streets and spaces of cemeteries, p. 15.
 Drift sand, in plundered burial shafts, p. 176.
- SANDING UP OF THE CEMETERIES: pp. 14, 17, 18, 19.
- SARCOPHAGI: of limestone, pp. 167-8; of granite, pp. 166-8; of alabaster, p. 166; of stone, pp. 164-8; *see* COFFINS.
- SAQQARAH: history of the Saqqarah Cemeteries, p. 1.
- SCENES USED IN DECORATION OF CHAPELS:
 In chapels of types (3) and (4):
 Decorated spaces, p. 321.
 Large wall scenes: table scenes, offering scenes, presentation scenes, family groups, and various small scenes, pp. 321-2.
 Table of the distribution of large scenes on the four walls of chapels of types (3) and (4), pp. 322-4.
 Minor scenes: pp. 324-30.
 Scenes on door-jambs: pp. 316-21.
 Drum of entrance, p. 315.
 Architrave, p. 315.
 Façade panels, pp. 315-16.

SCENES USED IN DECORATION OF CHAPELS (*contd.*):

In chapels of Dyns. V-VI:

- Types of scenes: pp. 366-71.
- Carrying-chair scene: pp. 367-8.
- Craftsmen at work: pp. 350-2, 367.
- Family groups: pp. 322, 352.
- Fish-seining scene, p. 357.
- Funeral scenes, pp. 358-60.
- Hunting wild animals, p. 367 (footnote).
- Offering scenes, pp. 347-9, 366.
- Pavilion scenes: pp. 348-9.
- Presentation scenes, pp. 349-50, 353.
- Scenes from life, pp. 322, 366-7.
- Swamp scenes, pp. 354-8, 367.
- Table scene, pp. 321-2, 347, 366.

Small scenes in all chapels:

- Bringing the funerary meal, pp. 326-7.
- Dancing, musicians, and singers, pp. 329-30.
- Slaughter scenes, pp. 327-9.
- Small table scene, pp. 324-5.
- Viewing the document of the house of the weaving women, p. 326.

SCHIAPARELLI: p. 23.

SEALINGS OF MUD: p. 31.

SELIM BEY HASSAN: p. 23.

SHAFT-CHAMBER: in RC tombs, p. 219.

SHAFTS, BURIAL: minor features of, pp. 155-76.

Methods of excavating in rock, p. 102.

In the four northern twin-mastabas of Cem. G 7000, p. 52.

Chronological order of shafts in Cem. G 1200, pp. 113-14.

In Cem. G 2100, pp. 111-13.

In Cem. G 4000, pp. 108-11.

In the fifteen initial mastabas, pp. 106-7.

Distribution of shafts in the nucleus cemeteries, pp. 106-14.

Shaft with two or three chambers, p. 110.

Number of shafts in mastabas, *see* MASTABAS.

Of smaller size cut in two-metre shafts, p. 85.

Filling of, pp. 175-6.

SHEPSESKAF-ANKH COMPLEX: p. 14.

SITE: of the Giza Necropolis, p. 1.

SITES: of royal cemeteries, attached to Memphis, selection of, p. 1.

SLAB-STELAE: pp. 6-8; list of, pp. 64-5, 67-8, 76, 78-9.

SMYTHE, PIAZZI: p. 22.

SENEZEM-IB-COMPLEX: p. 14.

SNEFERUW: identification of his pyramid, p. 2.

SPHINX, THE GREAT: pp. 18, 21, 26.

STATUES: of kings, alabaster, broken up for the manufacture of model vessels, p. 15.

STEINDORFF, GEORG: p. 23.

STONE: *see* CORE-MASTABAS, CASINGS, MASONRY, CHAPELS, LIMESTONE.

Theft of stone, pp. 14, 18.

STONE-WASHING CEREMONY: pp. 370-1.

STREETS AND AVENUES: in nucleus cemeteries:

Floors packed with limestone debris, p. 37.

Definition of 'street', p. 61.

Width of, pp. 61-4.

Queens' Street, p. 17.

SUBSTRUCTURES: *see* BURIAL CHAMBERS.

In the reign of Sneferuw, pp. 4-5.

Of Mastabat el Faraon at Dahshur, p. 4.

SURVEY DEPARTMENT OF EGYPTIAN STATE: levelling of the Cheops Pyramid, p. 22.

SWAMPS: use of in the O. K., p. 354.

TEMPLES OF THE NEW KINGDOM AT GIZA: p. 18.

TITLES: on chapel walls.

'King's son' and 'kinsman of the king', p. 32.

Priesthoods of a king, p. 33.

TOPOGRAPHY: of the Giza Necropolis, pp. 10 ff.

Of the Western Field, p. 13.

Of the Eastern Field, pp. 15-16.

Of Cem. G I-S, p. 17.

Of the Cheops-Chephren Quarry, p. 18.

Of the Mycerinus Quarry, p. 18.

TURNING RECESS: in bottom of shafts, pp. 164-8.

TWIN-MASTABAS: pp. 7, 16, 52, 87.

VYSE, COL. HOWARD, p. 21.

WADY CEMETERY: p. 23.

WALL SPACES: in chapels of types (3) and (4), p. 321.

WILLS AND SIMILAR DOCUMENTS: p. 35.

'WINDOW': used in cutting burial chambers, pp. 103, 163-4.

WORKSHOP FOR MAKING MODEL VESSELS OF ALABASTER: p. 15.

'WIPING OUT OF FOOTPRINTS': pp. 369-70.

wdn iht: pp. 370-1.*wet*: pp. 369-71.

ZOSER: his tomb at Saqqarah, p. 1.

NAMES OF OWNERS OF MASTABAS (*See also* APPENDIXES A-D)

Akhet-hetep (G 7650): pp. 118, 212, 308.

Akhet-hetep (Selim Hassan): p. 235.

Akhet-mehuw (G 2375): p. 285.

Akhet-mery-nesuwt (G 2184): pp. 314, 380.

Akhy (G 4750, Junker): pp. 307, 309.

Ankh-haf (G 7510): pp. 28, 148, 212, 308.

Ankh-haf (G 1234): p. 312.

Ankh-ir-ptah (G 2375): p. 262.

Ankh-ma-ra (G 7837): pp. 238, 314, 319, 368.

Ankh-ma-ra (Selim Hassan): p. 30.

Buw-nefer (Selim Hassan): p. 230.

Debehen (LG 90): pp. 221, 310, 358.

Dendenuw (LG 73): p. 238.

- Duwanehor (G 7550 = LG 58): pp. 116, 118, 208, 309.
 Duwanera (G 5110 = LG 44): pp. 69, 146, 218, 247, 248, 311, 318.
- Hap-n-nebty (G 7815): p. 242.
 Hemet-ra (Selim Hassan): p. 228.
 Hemyuwnuw (G 4000, Junker), pp. 107, 119, 125, 211, 307.
 Henutsen (G I-c): p. 248.
 Hetep-heres I (G 7000 X): pp. 155, 159, 166, 176.
 Hetep-heres II (G 7540): pp. 73, 82, 308.
 Hetep-heres II (?) (G 7350): pp. 116, 118, 149.
 Hetep-heres (LG 54): p. 271.
 Hordedef (G 7210+7220): pp. 115, 118, 121, 125, 129, 149, 205, 308.
- Iabtyt (G 4650, Junker): p. 307.
 Ian: (G 1607): p. 241.
 Ihy (G 5330 = LG 41): p. 263.
 Ikhet-neb (G 1206): p. 218.
 Imby (Selim Hassan): p. 217.
 Impy (G 2381): p. 153.
 Inezuw (G 2175): pp. 268, 313.
 Ipy (LG 80): p. 235.
 Iteti (LG 68): p. 243.
 Iteti (G 7391, Schiaparelli): p. 312.
 Iti (G 6030 = LG 17): p. 312.
 Iy-mery (G 6020 = LG 16): pp. 314, 363.
 Iy-nefer . . . (G 7820): pp. 60, 209.
 Iy-zefa (G 1313): p. 262.
- Ka-aper (G 7814): p. 237.
 Kahyfy (G 2136, Junker): p. 313.
 Ka-kher-ptah (G 5560 = LG 35, Junker): p. 153.
 Ka-m-aha (G 1223): pp. 65, 68, 113.
 Ka-m-ankh (G 4561, Junker): pp. 313, 370.
 Ka-m-nofret (G I-S No. 2 = G II S, Junker): p. 208.
 Ka-m-nofret (LG 63): p. 314.
 Ka-m-sekhem (G 7660 = LG 59): pp. 116, 118, 121, 208, 309, 325.
 Kaninesuwt (G 2155, Junker): pp. 214, 307.
 Kaninesuwt (G 2156, Junker): p. 254.
 Ka-n-neb (Service No. 2): p. 240 (Government excavations, Eastern Cemetery).
 Kanofer (G 1203): pp. 64, 113, 187.
 Kanofer (G 2150): pp. 67, 214, 311.
 Kapi (G 2091): p. 313.
 Ka-seza (G 5340 = LG 37, Junker): pp. 68, 252, 313.
 Ka-wab (G 7110+7120): pp. 115, 118, 125, 149, 151, 205, 307.
 Ka-zedef (Service No. 1): p. 243.
 Khafra-ankh (G 7948 = LG 75): pp. 238, 314.
 Kha-merer-nebty I ('Galarza Tomb'): pp. 152, 236.
 Kha-merer-nebty II (Pyr. G III a ?): p. 248.
 Khemten (G 5210 = LG 43): pp. 312, 330.
 Khent-ka (?) (G 2130): pp. 67, 203, 307.
 Khent-kauws, Queen (LG 100): p. 152.
 Khnumbaf (G 5230 = LG 40): p. 248.
- Khnumenti (G 2374): pp. 176, 267, 313.
 Khnum-nefer (G 2175): pp. 268, 313.
 Khufuw-ankh (G 4520): pp. 215, 307.
 Khufuw-dedef (G I-S No. 3 = G III S, Junker): pp. 207, 311, 381.
 Khufuw-hetep (LG 76): p. 234.
 Khufuw-khaf (G 7130+7140): pp. 115, 118, 120, 121, 206, 308, 318.
 Khufuw-khaf II (G 7150): pp. 313, 382.
 Khufuw-nekht (G 1205): pp. 64, 113.
 Khuwnera (M. Q. 1): pp. 152, 226, 310, 347, 351.
 Khuw-n-ptah (G 7244-7246): p. 285.
- Men-ib (G 7249): p. 311.
 Meresankh II (G 7410+7420): pp. 115, 116, 121, 125, 129, 308.
 Meresankh III (G 7530): pp. 32, 116, 225, 310, 317, 349, 350, 357, 358, 371.
 Mer-ib (G 2100 I-Ann. = LG 24): pp. 67, 107, 176, 216, 311.
 Meruwka (Junker-Steindorff): p. 313 (south of G 2000).
 Meruwka (Selim Hassan): p. 210.
 Mery-hetep (G 4360, Junker): p. 65.
 Mery-nesuwt (G 1301): p. 382.
 Merytyetes (G 4140): pp. 65, 123, 128, 306.
 Merytyetes (G 7650): pp. 82, 118, 212, 308.
 Mes-sa (G 1020): p. 216.
 Mesuw (G 7822): p. 241.
 Min-ankh (G 1047): pp. 154, 262, 313.
 Mindedef (G 7760 = LG 60): pp. 116, 121, 209, 309, 382.
 Min-khaf (G 7430+7440 = LG 61): pp. 115, 118, 121, 206.
 Minyuwen (LG 92): p. 221.
- Nebemakhet (LG 12): pp. 224, 310.
 Nebemakhet (LG 86): pp. 236, 247, 248, 310.
 Nebty-her-kauws (G 7836): p. 243.
 Neferhetepes (G 4714 = LG 48): p. 253.
 Nefer-ked (G 1151): p. 312.
 Neferma'at (G 7060 = LG 57): pp. 60, 116, 209, 309, 381.
 Nefert-kauw (G 7050): pp. 28, 60, 73, 308, 381.
 Nefert-kauw (G 7130): p. 308.
 Nefert-kauw (G 7820): pp. 116, 209.
 Nefert-yabet (G 1225): pp. 65, 113.
 Nekauwra (LG 87): pp. 152, 221, 310, 348.
 Nekhebuw (G 2381): p. 313; (G 2382, burial chamber (?)): p. 153.
 Nensezerka (G 2100-II-Ann. = G 2101, Junker): p. 280.
 Nes-m-nehuw (LG 64): p. 243.
 Nesuwt-nefert (G 1457): p. 210.
 Nesuwt-nofer (G 4970, Junker): pp. 214, 311, 325.
 Neter-puw-nesuwt (Service tomb in Selim Hassan's excavations): p. 314.
 Neweserra (Selim Hassan): p. 231.
 Ni-ankh-ra (G I-S No. 4 = G IV S, Junker = LG 52): p. 217.
 Ni-ankh-ra (Selim Hassan): p. 243.
 Ni-ma'at-hap (G 4712): p. 253.

- Nofer (G 2110): pp. 67, 306.
 Nofer (G 4861, Junker): p. 313.
 Nofer(t) (G 1207): pp. 64, 113, 190.
- Peh-n-ptah (G 5280): p. 251.
 Pen-meruw (G 2197): p. 35.
 Persen (LG 20): pp. 217, 311.
 Per-(senet) (LG 88): pp. 152, 225, 310.
 Ptah-ir-ankh (G 4811+4812): p. 269.
 Ptahmerankh-Pepy (G 2387): p. 153.
 Ptah-nefer-bauw (G 6010 = LG 15): pp. 217, 290, 314.
 Ptah-nefer-sefekh (LG 79): p. 239.
 Ptah-nefer-seshem (G 7821): p. 240.
 Ptah-sekhem-ankh (G 7152): p. 312.
- Qar (G 7101): pp. 314, 368, 370.
- Ra-bauwf (?) (G 7310+7320): pp. 125, 129, 205, 308.
 Rawer I (G 5270, Junker): pp. 251, 312.
 Rawer II (G 5470 = LG 32, Junker): p. 251.
 Rawer (LG 94): p. 152.
 Rawer (Selim Hassan): p. 233.
 Rekhet-ra (Selim Hassan): p. 227.
- Sankh-n-ptah (G 5520 = LG 28): p. 264.
 Sekhem-ka (G 1029): p. 362.
 Sekhem-ka (G 4411 = LG 51): p. 312.
 Sekhem-ka (G I-S No. 8 = G VIII S, Junker): p. 154.
 Sekhemkara (LG 89): pp. 224, 310.
 Seneb (Junker): p. 313.
 Senezem-ib = Mehi (G 2378 = LG 26): pp. 156, 266.
 Senezem-ib = Yenti (G 2370 = LG 27): pp. 151, 255, 260, 264, 313, 370.
 Sennuw (G 1608): p. 241.
 Sennuwka (G 2041): pp. 217, 311.
 Seshat-hetep (G 5150 = LG 36): pp. 215, 311, 325, 381.
- Seshat-sekhentiw (G 2120): pp. 65, 67, 111, 306.
 Seshem-nofer (G 4940 = LG 45): pp. 214, 311, 325.
 Seshem-nofer (G 5080 = G 2200): pp. 214, 311, 325.
 Seshem-nofer (G 5170): pp. 215, 311.
 Seshem-nofer (LG 53): p. 271.
 Sethuw (G 4710 = LG 49): pp. 208, 307, 311.
 Sethy-hekenet (G 1227): pp. 65, 113, 191.
 Sewaz-r-ka (Selim Hassan): p. 243.
 Shad (G 1221): p. 292.
 Shepseskaf-ankh (G 1008): p. 252.
 Shepseskaf-ankh (G 6040 = LG 18): pp. 217, 260.
 Sneferuw-hetep (G 3008, Fisher): p. 312.
 Sneferuw-khaf (G 7070 = LG 56): pp. 60, 116, 209, 309, 381.
 Sneferuw-seneb (G 4240): p. 307.
- Thenty (G 4920 = LG 47): pp. 214, 312.
 Thenty (LG 77): p. 237.
- Wepemnofret (G 1201): pp. 64, 68, 113, 203.
 Weneshet (G 4840, Junker): pp. 65, 306, 307, 309.
 Weri (G 2415): p. 253.
- Yabtyt (G 4650, Junker): p. 309.
 Yasen (G 2196): pp. 314, 365.
 Yeduw (G 7102): pp. 314, 368.
 Yeduw (Junker): p. 153.
 Yeny (G 1235): pp. 65, 68, 114, 190.
 Yuwen-ra (Selim Hassan): pp. 238-46.
 Yuwnuw (G 4150): pp. 65, 306.
- Zati (G 5370 = LG 31): pp. 251, 312.
 Zati (G 7810): pp. 116, 118, 209, 309, 382.
 Zed-wa'a (G 1452+1453): p. 216.
 Zefa-nesuwt (Selim Hassan): p. 232.

MASTABA NUMBERS AND NAMES OF OWNERS (See MAPS 1-6)

- | | | |
|--------------------------|--|--|
| G 1008: Shepseskaf-ankh. | G 1457: Nesuwt-nefert. | G 2196: Yasen. |
| G 1020: Mes-sa. | G 1607: Ian. | G 2197: Pen-meruw. |
| G 1029: Sekhem-ka. | G 1608: Sennuw. | G 2200 = G 5080: Seshem-nofer. |
| G 1047: Min-ankh. | | G 2370 (LG 27): Senezem-ib = Yenti. |
| G 1151: Nefer-ked. | G 2041: Sennuwka. | G 2374: Khnumenti. |
| G 1201: Wepemnofret. | G 2091: Kapi. | G 2375: Ankh-ir-ptah, Akhet-mehuw. |
| G 1203: Kanofer. | | G 2378 (LG 26): Senezem-ib = Mehi. |
| G 1205: Khufuw-nekht. | G 2100 I-Ann. (LG 24): Mer-ib. | G 2381 (burial chamber): Impy. |
| G 1206: Ikhet-neb. | G 2100 II-Ann (= G 2101): Nensez-erka. | G 2381: Nekhebuw. |
| G 1207: Nofer(t). | G 2110: Nofer. | G 2382 (burial chamber): Nekhebuw (?). |
| G 1221: Shad. | G 2120: Seshat-sekhentiw. | G 2387: Ptahmerankh-Pepy. |
| G 1223: Ka-m-aha. | G 2130: Khent-ka (?). | G 2415: Weri. |
| G 1225: Nefert-yabet. | G 2136: Kahyfy. | |
| G 1227: Sethy-hekenet. | G 2150: Kanofer. | G 3008: Sneferuw-hetep. |
| G 1234: Ankh-haf. | G 2155: Kaninesuwt. | |
| G 1235: Yeny. | G 2156: Kaninesuwt II. | G 4000: Hemyuwnuw. |
| G 1301: Mery-nesuwt. | G 2175: Khnum-nefer, Inezuw. | G 4140: Merytyetes. |
| G 1313: Iy-zefa. | G 2184: Akhet-mery-nesuwt. | G 4150: Yuwnuw. |
| G 1452+1453: Zed-wa'a. | | |

G 4240: Sneferuw-seneb.
 G 4360: Mery-hetepcf.
 G 4411 (LG 51): Sekhem-ka.
 G 4520: Khufuw-ankh.
 G 4561: Ka-m-ankh.
 G 4650: Iabtyt.
 G 4710 (LG 49): Sethuw.
 G 4712: Ni-ma'at-hap.
 G 4714 (LG 48): Neferhetepes.
 G 4750: Akhy.
 G 4811+4812: Ptah-ir-ankh.
 G 4840: Weneshet.
 G 4861: Nofer.
 G 4920 (LG 47): Thenty.
 G 4940 (LG 45): Seshem-nofer.
 G 4970: Nesuwt-nofer.

G 5080 = G 2200: Seshem-nofer.
 G 5110 (LG 44): Duwanera.
 G 5150 (LG 36): Seshat-hetep.
 G 5170: Seshem-nofer.
 G 5210 (LG 43): Khemten.
 G 5230 (LG 40): Khnumbaf.
 G 5270: Rawer I.
 G 5280: Peh-n-ptah.
 G 5330 (LG 41): Ihy.
 G 5340 (LG 37): Ka-seza.
 G 5370 (LG 31): Zati.

G 5470 (LG 32): Rawer II.
 G 5520 (LG 28): Sankh-n-ptah.
 G 6010 (LG 15): Ptah-nefer-bauw.
 G 6020 (LG 16): Iy-mery.
 G 6030 (LG 17): Iti.
 G 6040 (LG 18): Shepseskaf-ankh.

G 7000 X: Hetep-heres I.
 G 7050: Nefert-kauw.
 G 7060 (LG 57): Neferma'at.
 G 7070 (LG 56): Sneferuw-khaf.
 G 7101: Qar.
 G 7102: Yeduw.
 G 7110+7120: Ka-wab.
 G 7130: Nefert-kauw.
 G 7130+7140: Khufuw-khaf.
 G 7150: Khufuw-khaf II.
 G 7152: Ptah-sekhem-ankh.
 G 7210+7220: Hordedef.
 G 7246: Khuw-n-ptah.
 G 7249: Men-ib.
 G 7310+7320: Ra-bauwf (?).
 G 7350: Hetep-heres II (?).
 G 7391: Iteti.
 G 7410+7420: Meresankh II.
 G 7430+7440 (LG 61): Min-khaf.
 G 7510: Ankh-haf.

G 7530: Meresankh III.
 G 7540: Hetep-heres II.
 G 7550 (LG 58): Duwanchor.
 G 7650: Merytyetes, Akhet-hetep.
 G 7660 (LG 59): Ka-m-sekhem.
 G 7760 (LG 60): Mindedef.
 G 7810: Zati.
 G 7814: Ka-aper.
 G 7815: Hap-n-nebty.
 G 7820: Nefert-kauw, Iy-nefer . . .
 G 7821: Ptah-nefer-seshem.
 G 7822: Mesuw.
 G 7836: Nebty-her-kauw-s.
 G 7837: Ankh-ma-ra.
 G 7948 (LG 75): Khafra-ankh.

G I-c: Henutsen.
 G III-a: Kha-merer-nebty II (?).

M. Q. I: Khuwnera.

Service No. 1: Ka-zedef.
 Service No. 2: Ka-n-neb.

G I-S No. 2 = G II S: Ka-m-nofret.
 G I-S No. 3 = G III S: Khufuw-dedef.
 G I-S No. 4 = G IV S: Ni-ankh-ra.
 G I-S No. 8 = G VIII S: Sekhem-ka.

LIST OF MASTABAS WITH LEPSIUS NUMBERS

LG 12: Nebemakhet.
 LG 15 (G 6010): Ptah-nefer-bauw.
 LG 16 (G 6020): Iy-mery.
 LG 17 (G 6030): Iti.
 LG 18 (G 6040): Shepseskaf-ankh.
 LG 20: Persen.
 LG 23: G 2000.
 LG 24 (G 2100 I-Ann.): Mer-ib.
 LG 26 (G 2378): Senezem-ib = Mehi.
 LG 27 (G 2370): Senezem-ib = Yenti.
 LG 28 (G 5520): Sankh-n-ptah.
 LG 31 (G 5370): Zati.
 LG 32 (G 5470): Rawer II.
 LG 35 (G 5560): Ka-kher-Ptah.
 LG 36 (G 5150): Seshat-hetep.
 LG 37 (G 5340): Ka-seza.
 LG 40 (G 5230): Khnumbaf.
 LG 41 (G 5330): Ihy.

LG 43 (G 5210): Khemten.
 LG 44 (G 5110): Duwanera.
 LG 45 (G 4940): Seshem-nofer.
 LG 46: G 5030.
 LG 47 (G 4920): Thenty.
 LG 48 (G 4714): Neferhetepes.
 LG 49 (G 4710): Sethuw.
 LG 50 (G 4611): Niuwty.
 LG 51 (G 4411): Sekhem-ka.
 LG 52 (G I-S No. 4 = G IV S): Ni-ankh-ra.
 LG 53: Seshem-nofer.
 LG 54: Hetep-heres.
 LG 56 (G 7070): Sneferuw-khaf.
 LG 57 (G 7060): Neferma'at.
 LG 58 (G 7550): Duwanchor.
 LG 59 (G 7660): Ka-m-sekhem.
 LG 60 (G 7760): Mindedef.

LG 61 (G 7430+7440): Min-khaf.
 LG 63: Ka-m-nofret.
 LG 64: Nes-m-nehuw.
 LG 68: Iteti.
 LG 73: Dendenuw.
 LG 75 (G 7948): Khafra-ankh.
 LG 76: Khufuw-hetep.
 LG 77: Thenty.
 LG 79: Ptah-nefer-sefekh.
 LG 80: Ipy.
 LG 86: Nebemakhet.
 LG 87: Nekauwra.
 LG 88: Per-(senet).
 LG 89: Sekhemkara.
 LG 90: Debehen.
 LG 92: Minyuwen.
 LG 94: Rawer.
 LG 100: Queen Khent-kauws.



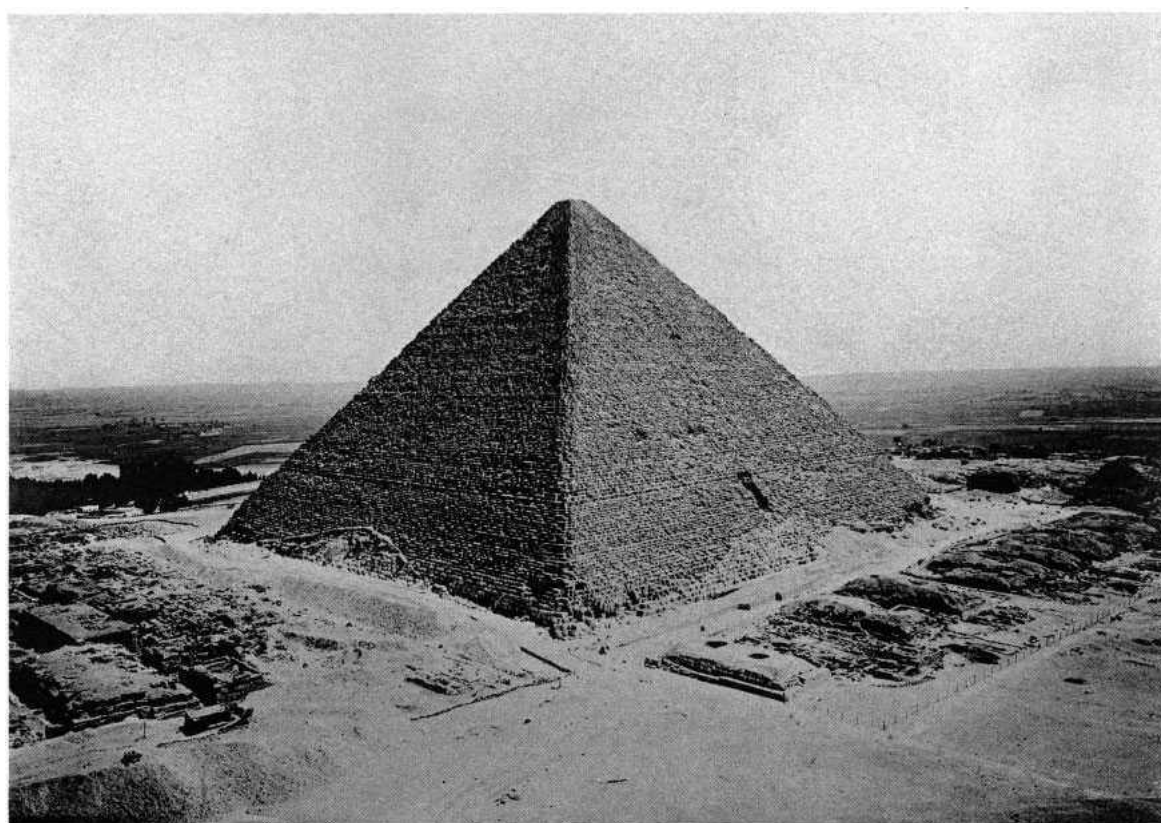
a. Pyramid promontory viewed from NE: 1905.



b. Pyramids, looking NNE: 1905.



a. Pyramids of Cheops and Chephren viewed from NW: 1914.



b. Cheops pyramid and Cemetery G I S, looking NE from Chephren pyramid: 1932.



a. Second Pyramid and temple and western side of Cheops-Chephren quarry seen from Cheops pyramid: 1913.



b. Sphinx and eastern side of Cheops-Chephren quarry, from Cheops pyramid: 1932.



a. Giza Necropolis and Cheops-Chephren quarry viewed from SE: 1937.



b. Cheops-Chephren quarry as excavated by Prof. Selim Bey Hassan, seen from Cheops pyramid: 1937.



a. Eastern Field before excavation: 1913.



b. Eastern Field looking east: 1924.



a. Eastern Field including the great Sphinx, looking ESE: 1932.



b. Cem. G 7000, nucleus cemetery, looking ESE: 1932.



a. Western Field, looking west from Cheops pyramid: 1932.



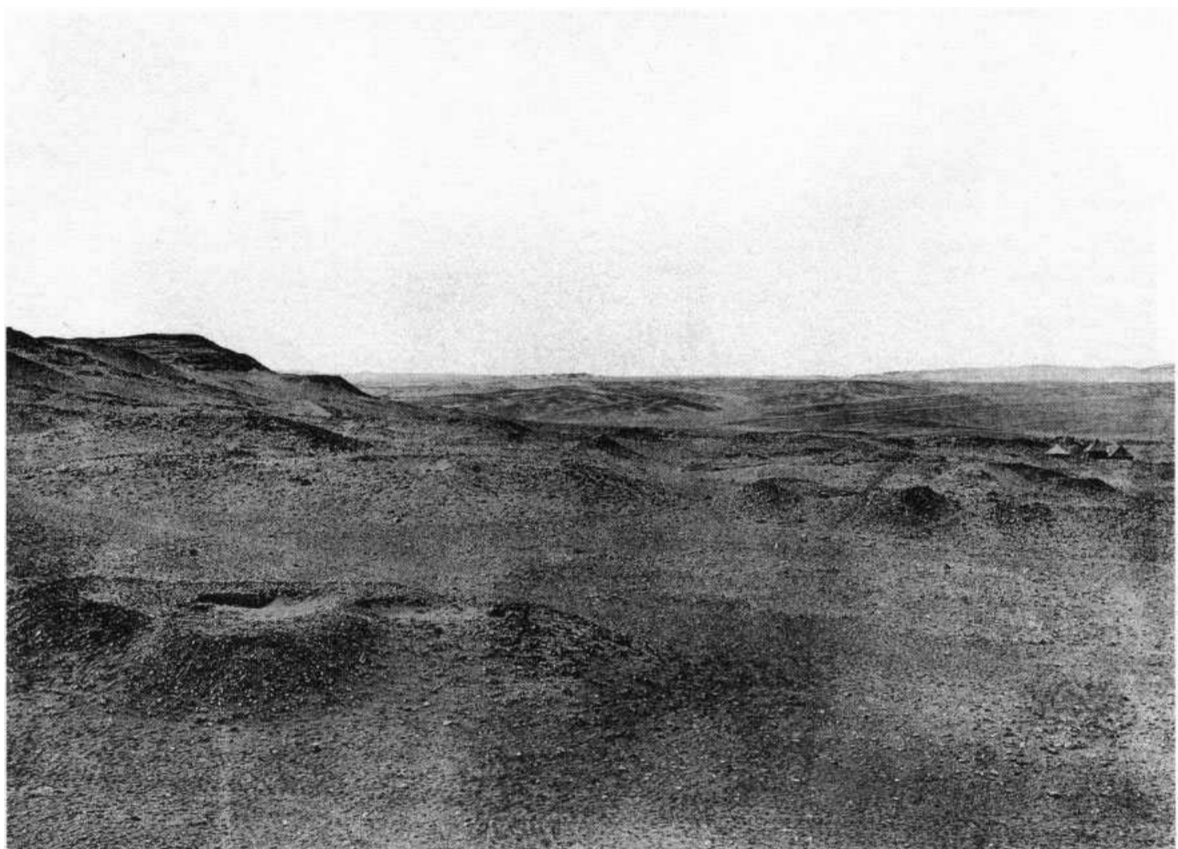
b. Middle and northern parts of Western Field: 1932.



a. Western Field, looking NNE from Second Pyramid: 1932.



b. Western Field, southern part, looking west from First Pyramid: 1932.



a. Cem. G 1000-1200 before excavation, looking west from top of G 2000: 1904.



b. Cem. G 1200 after excavation, looking west from top of G 2000: 1906.



a. Cem. G 1200, Mastabas in southern row, looking ESE: 1906.



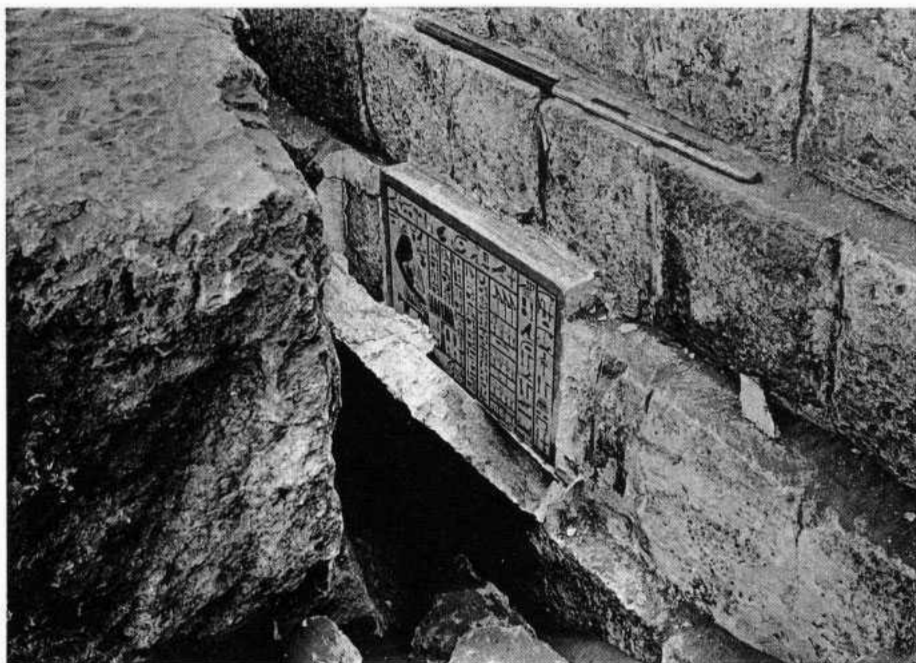
b. Cem. G 1200, Avenue between middle and southern row of mastabas, looking east: 1906.



a. G 1201, Chapel, looking north: 1905.



b. G 1201, Back of west wall of stone chapel and slab-stela in core wall covered by uninscribed slab, looking down to south: 1905.



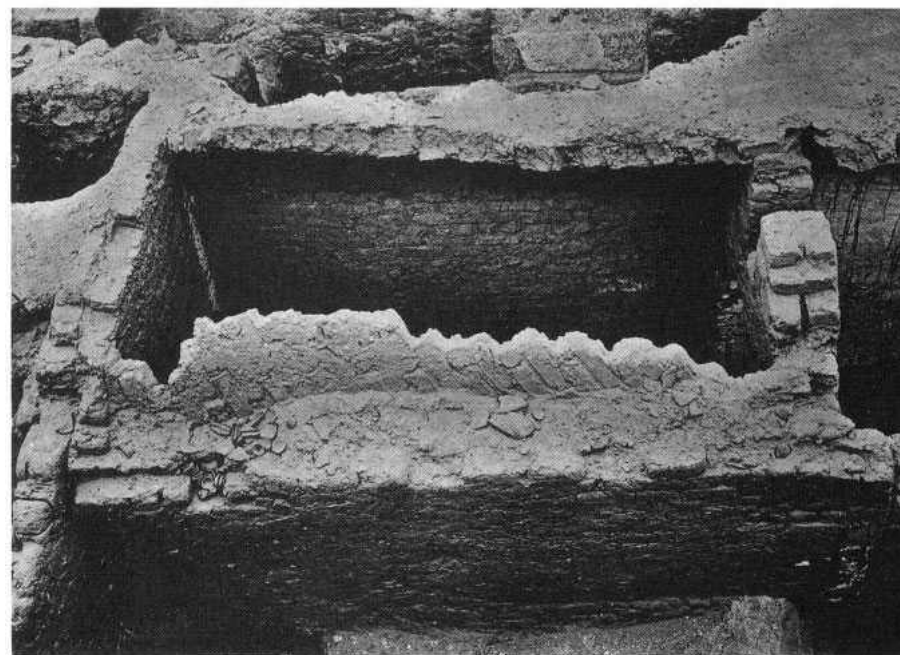
c. G 1201, Covering slab pulled forward to show slab-stela.



d. G 1201, Slab-stela in place with covering slab removed.



a. G 1203, Exterior e.b. chapel of type (1 a), looking NNW: 1904-5.



b. G 1203, Chapel, looking down to west on top of walls of room C: 1904-5.



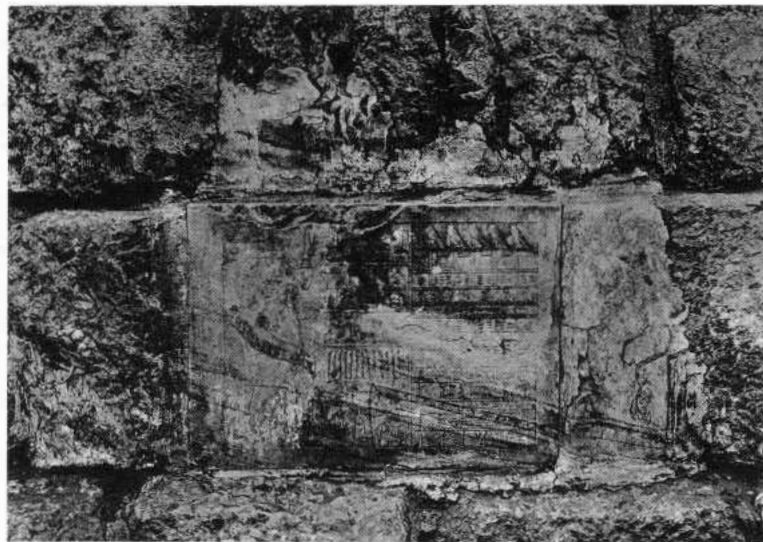
c. G 1205, Exterior e.b. chapel of type (1 a), looking north: 1904-5.



d. G 1205, Offering-room, looking south, showing mud platform and statue basis: 1904-5.



a. G 1205, Chapel, looking west, slab-stela in place: 1904-5.



b. G 1205, Slab-stela in emplacement.



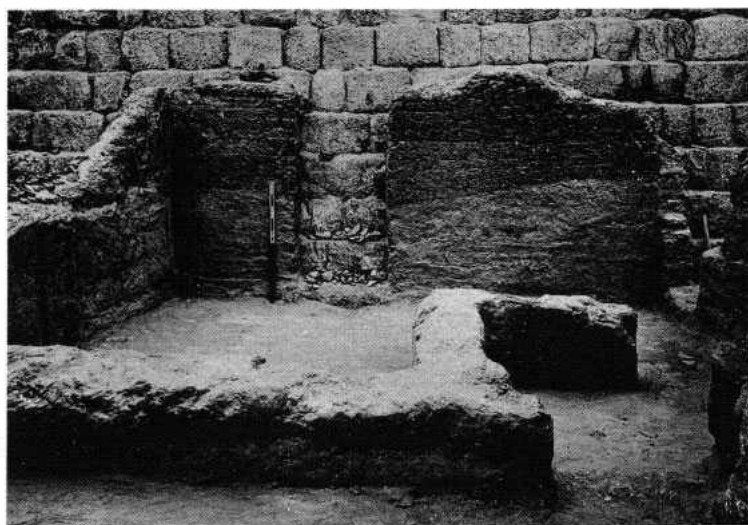
c. G 1207, Exterior c.b. chapel of type (1 a), looking west, slab-stela in place: 1904-5.



d. G 1207, Offering-room, looking south, showing mud platform: 1904-5.



e. G 1207, Slab-stela in place.



a. G 1209, Exterior c.b. chapel without slab-stela, type (1 a), looking west: 1905.



b. G 1223, Exterior c.b. chapel, looking south: 1906.



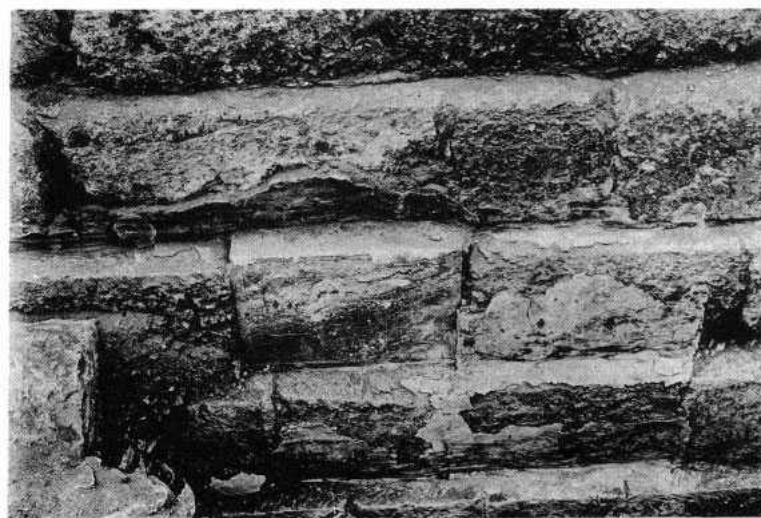
c. G 1223, Exterior chapel, room b, looking SW: 1906.



d. G 1223, Interior stone chapel, looking south: 1906.



e. G 1223, Whole chapel, looking west: 1906.



f. G 1223, Slab-stela in place in retaining wall of core: 1904-5.



a. G 1223, Enlargement of mastaba on west and south, looking NE from G 1205: 1906.



b. G 1225, Chapel, looking SW, unfinished interior chapel of type (3) and final c.b. chapel: 1904-5.



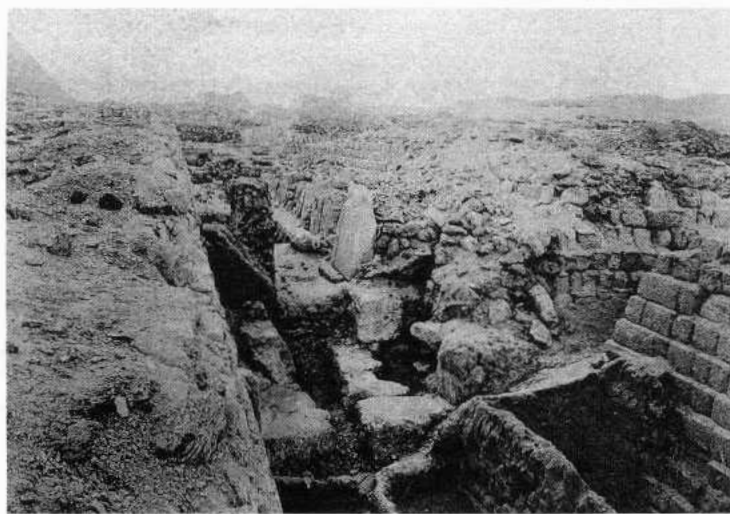
c. Between G 1223 and 1225, looking north, showing contact of enlargements of two mastabas: 1904-5.



d. G 1225 annex, Subsidiary north chapel, looking NW: 1906.



e. G 1225, Casing of west wall, looking SE: 1906.



f. G 1225 annex, looking SW from top of 1233: 1934.



a. G 1227, Exterior c.b. chapel of type (1 a), looking SW: 1906.



b. G 1227, Chapel, slab-stela in place, looking WSW: 1904-5.



c. G 1227, Small mastabas built against east face, looking SSW: 1905-6.



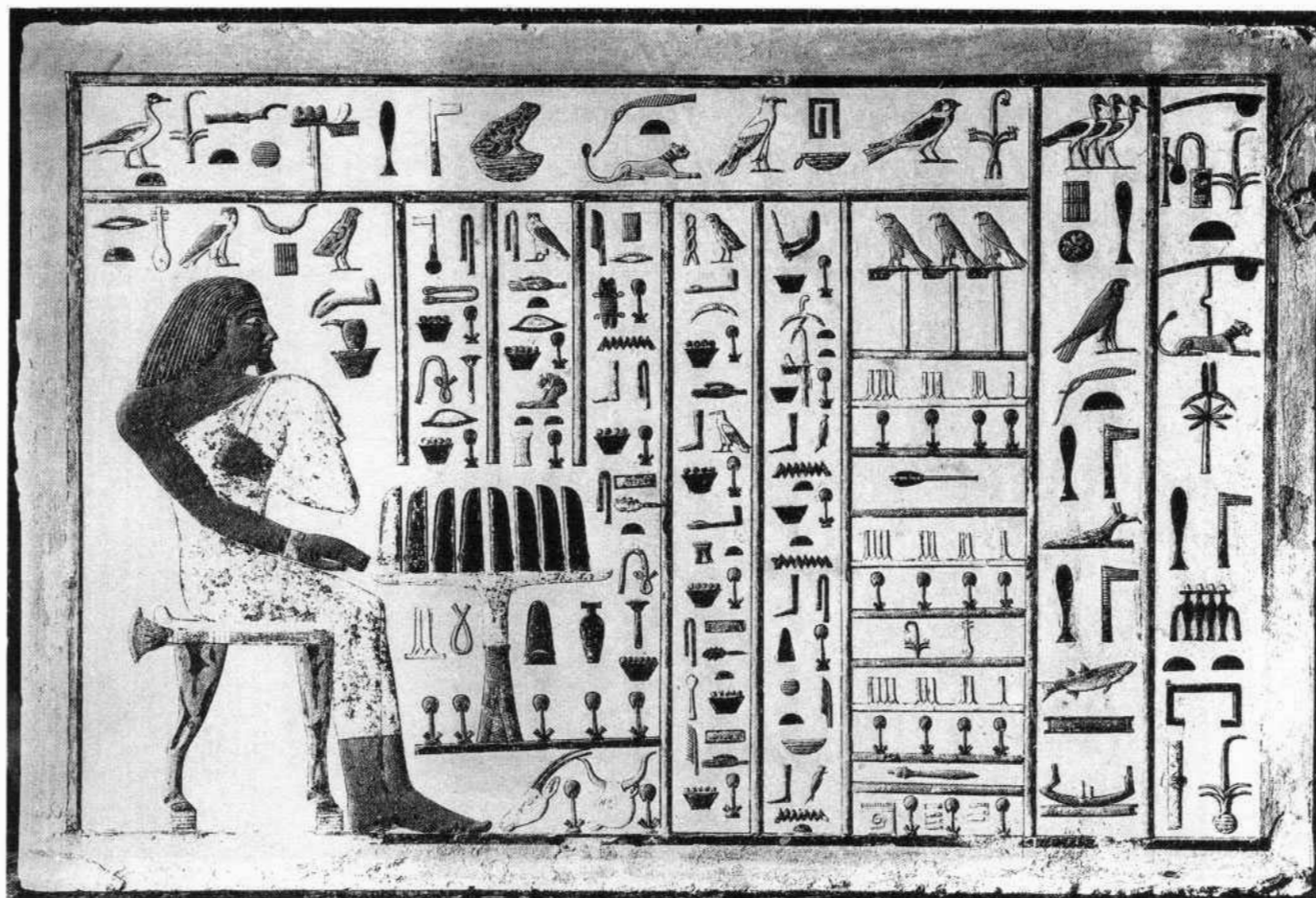
d. G 1227 Annex and subsidiary north chapel, looking west: 1934.



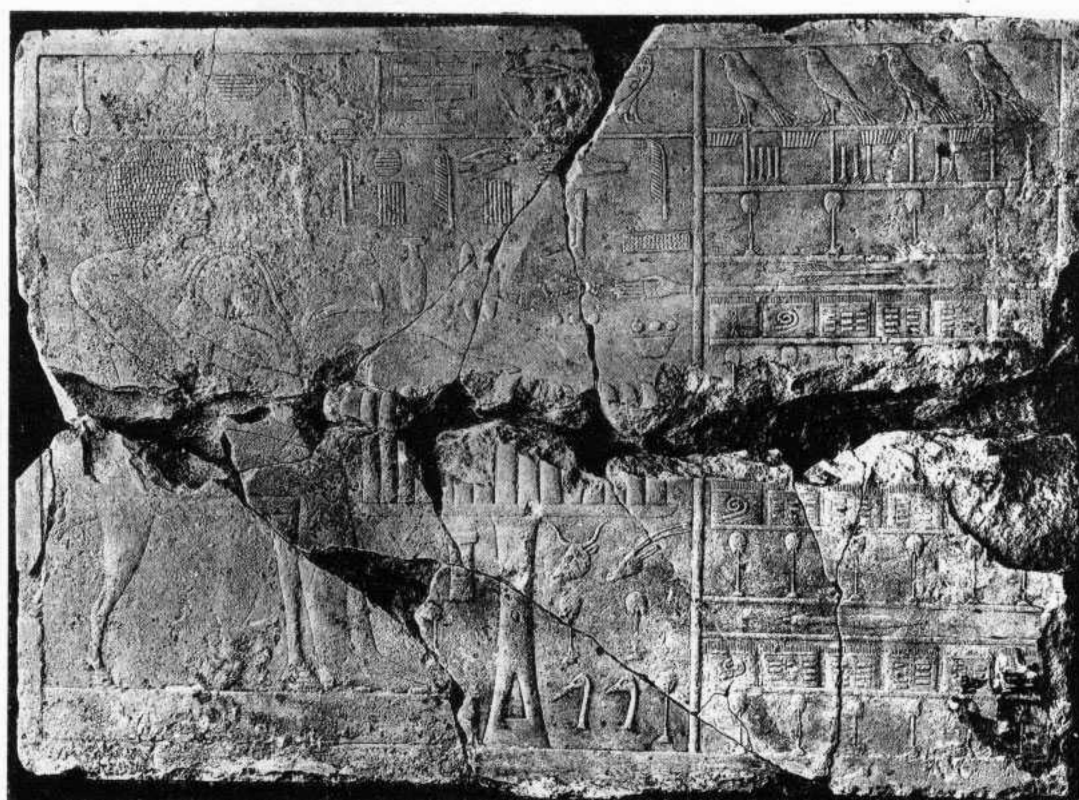
e. G 1235, Exterior c.b. chapel of type (1 a), looking SSW: 1905.



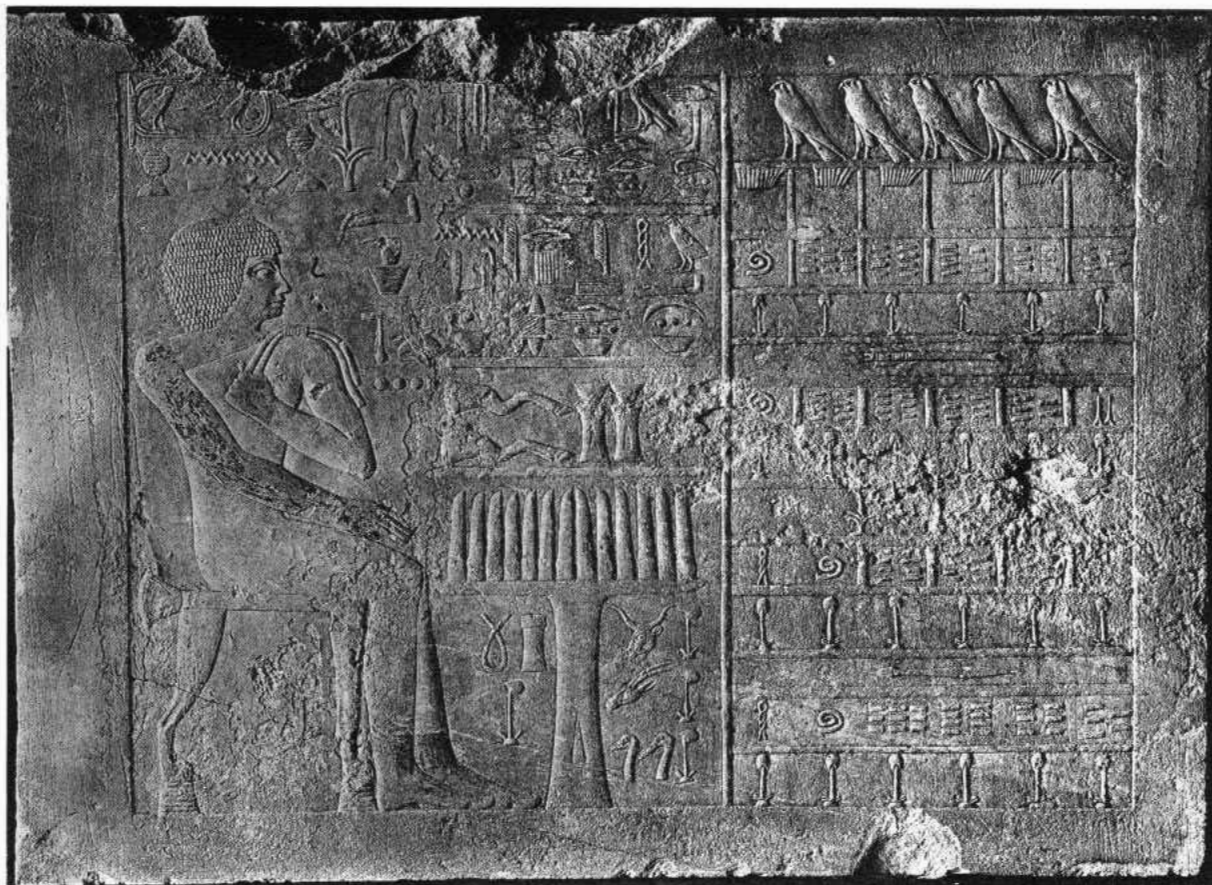
f. G 1235. Slab-stela in place in chapel, also roofing slabs of intrusive burial chamber: 1905.



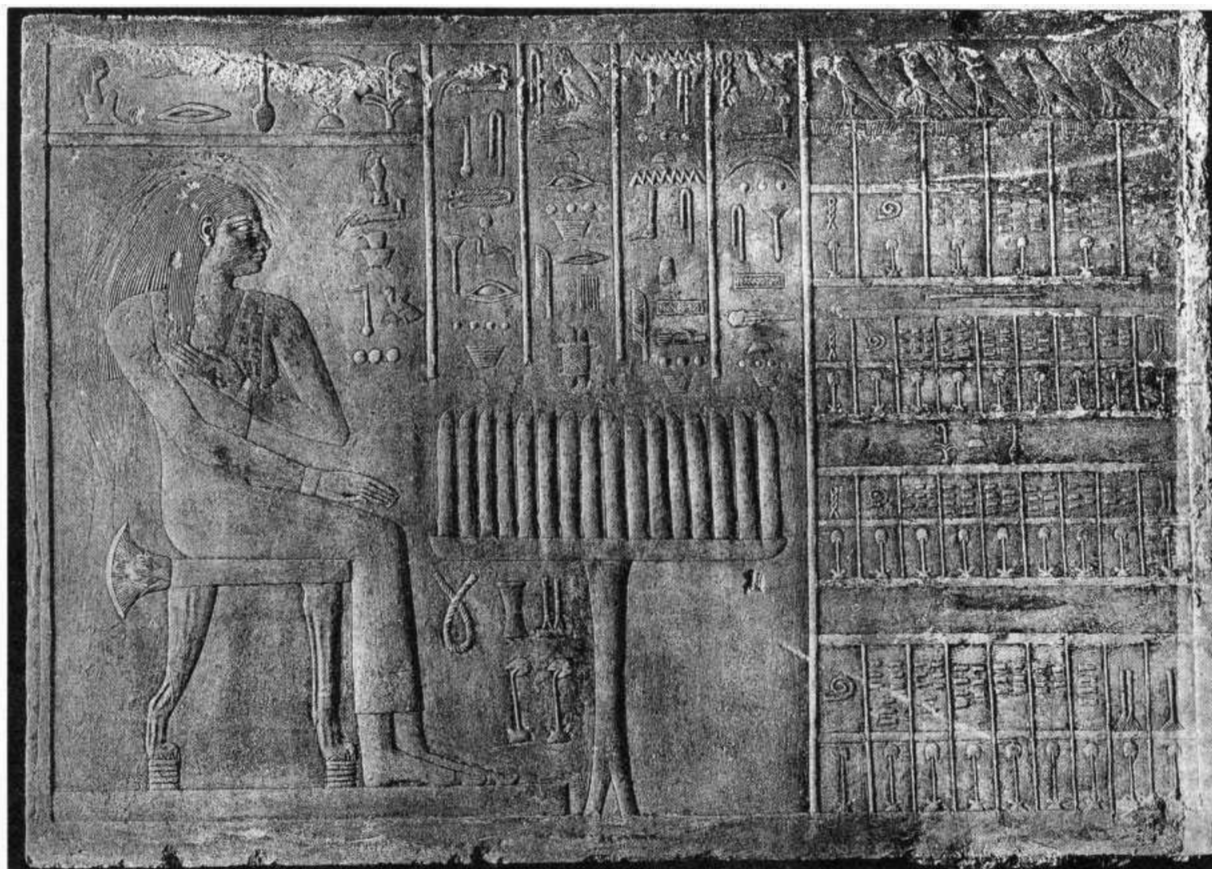
a. G 1201, Slab-stela of Prince Wepemnofret.



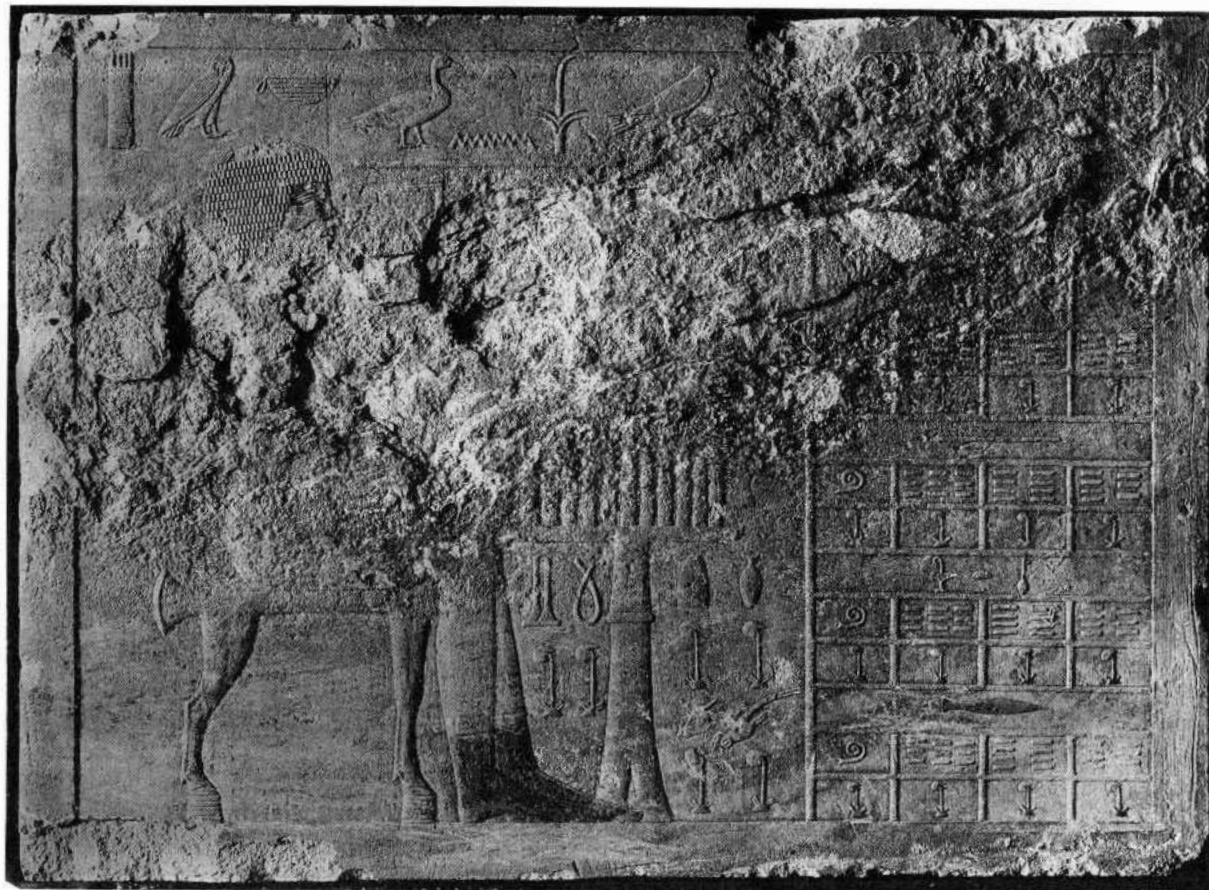
b. G 1203, Broken slab-stela of Kanofer.



a. G 1205, Slab-stela of Khufuw-nekht.



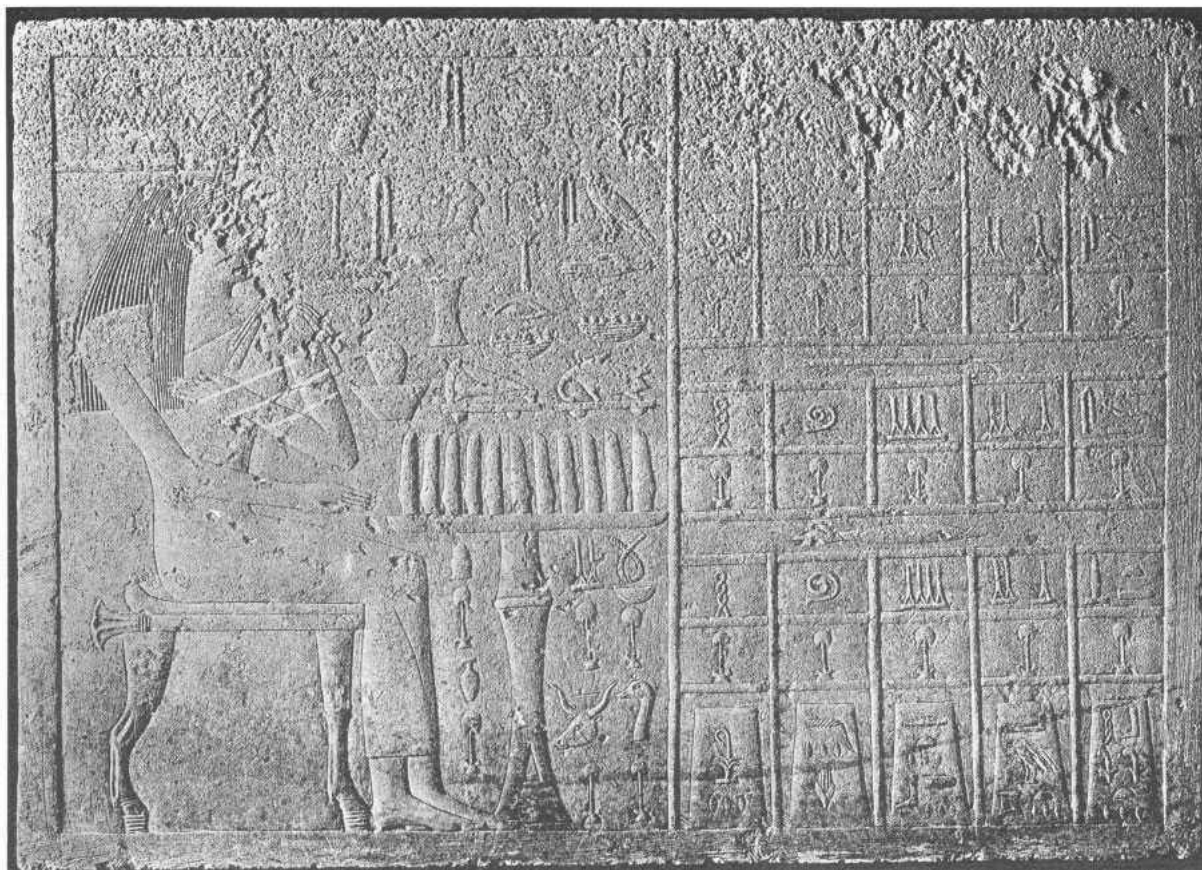
b. G 1207, Slab-stela of Nofret.



a. G 1223, Slab-stela of Prince Ka-m-aha.



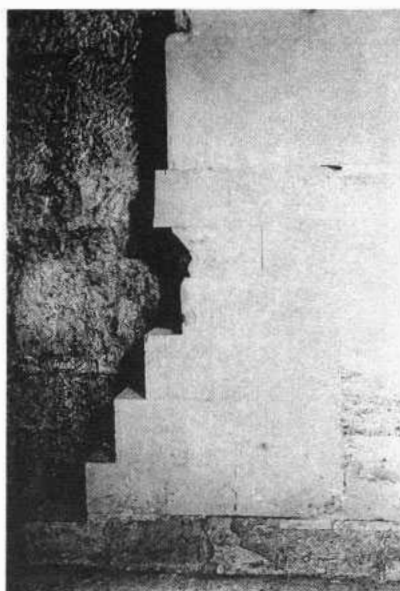
b. G 1225, Slab-stela of Princess Nefert-yabet, in the collection of Mr. Atherton Curtis in Paris.



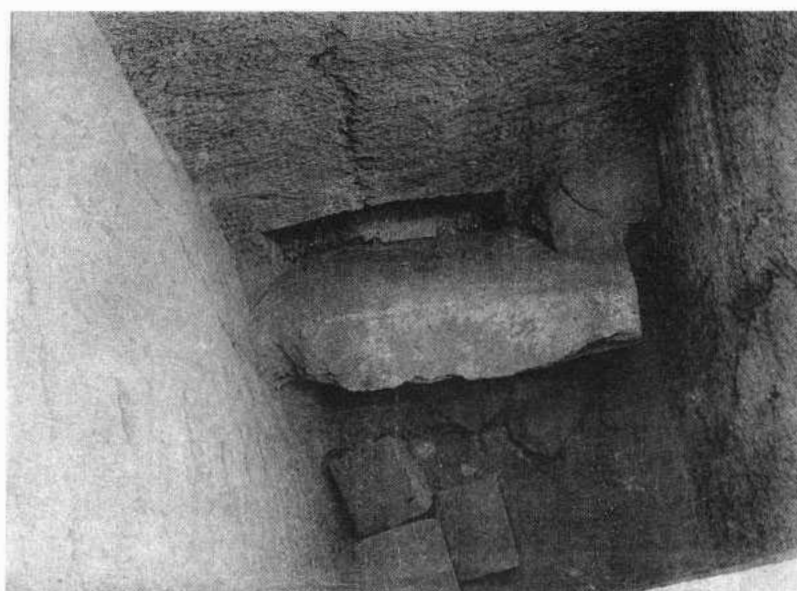
a. G 1227, Slab-stela of Sethy-hekenet.



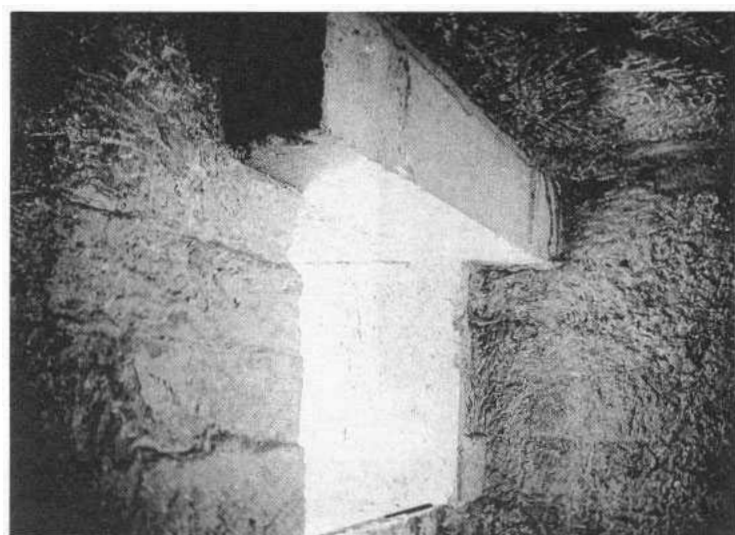
b. G 1235, Slab-stela of Yeni.



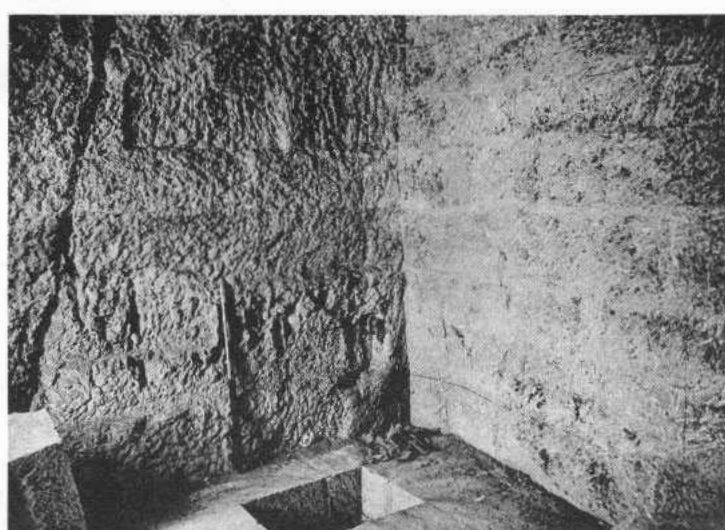
a. G 1201, Burial-chamber of type 1 al, white limestone lining on north wall west of doorway: 1906.



b. G 1203, Shaft A, looking down shaft, to show portcullis slab and remains of interior blocking: 1936.



c. G 1203 A, Chamber, remains of lining around doorway, looking NE: 1905.



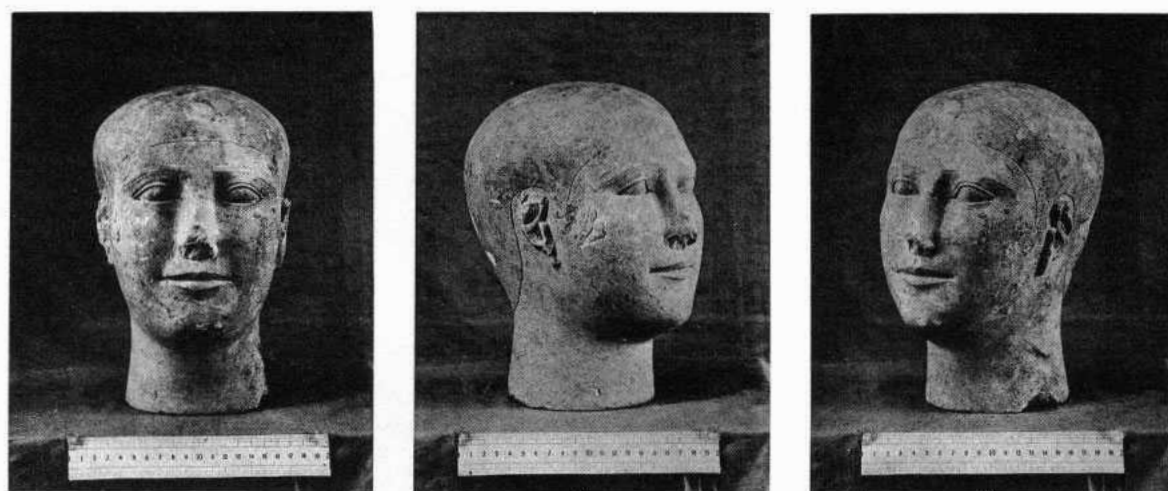
d. G 1203 A, Canopic pit in SE corner: 1905.



e. G 1203 A, Red construction lines and chisel marks on ceiling: 1905.



f. G 1203 A, Reserve head as found, looking south: 1904-5.



a.

b.

c.

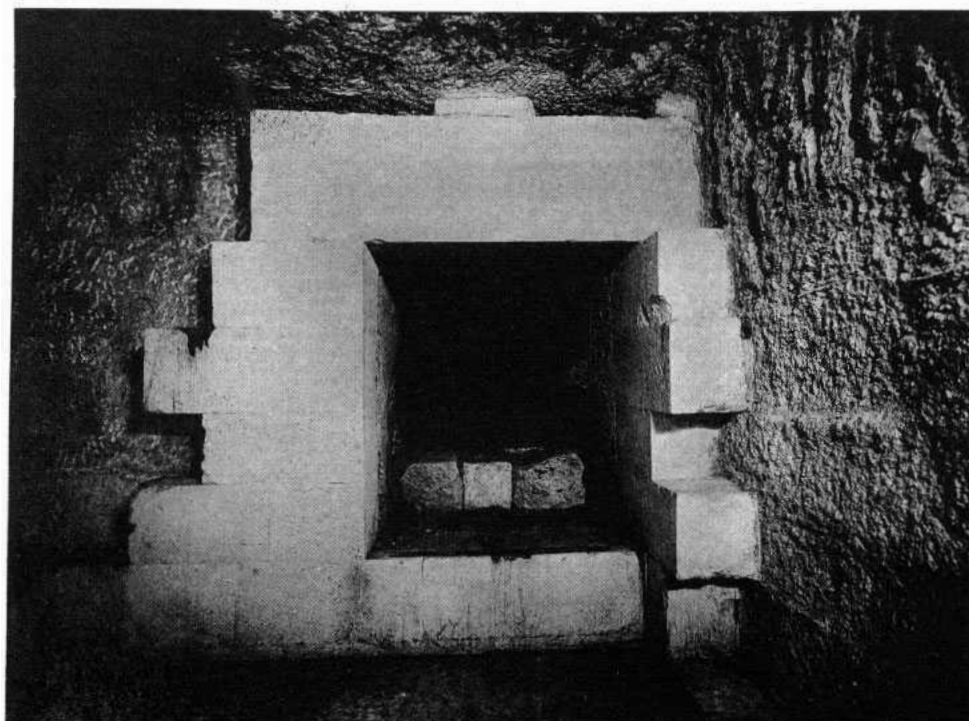


d.

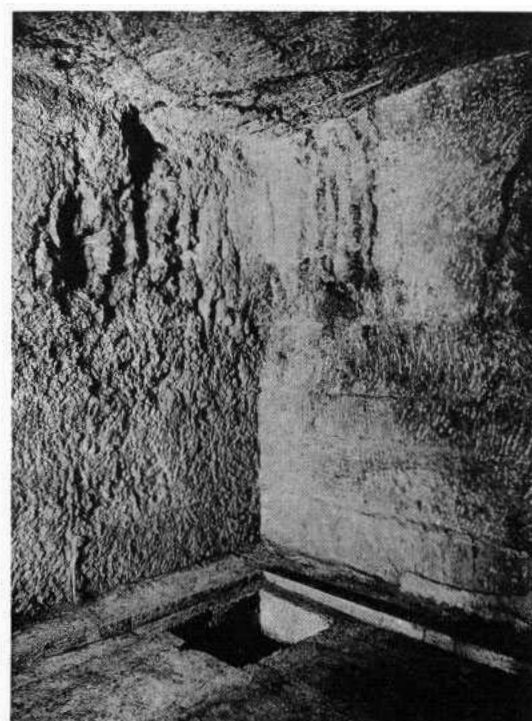


e.

a-e. G 1203, Reserve head of Kanofer.



f. G 1205, Burial-chamber, lining around doorway, looking north: 1934.



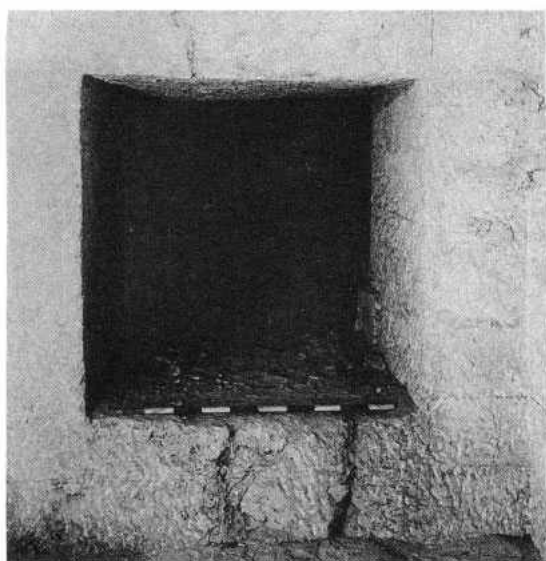
g. G 1205, SE corner of burial-chamber: 1934.



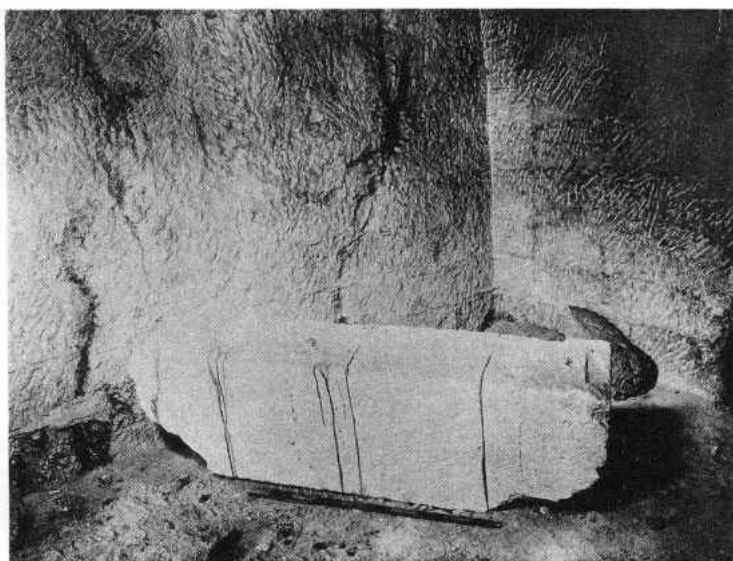
a. G 1223, Mouth of shaft A: 1905.



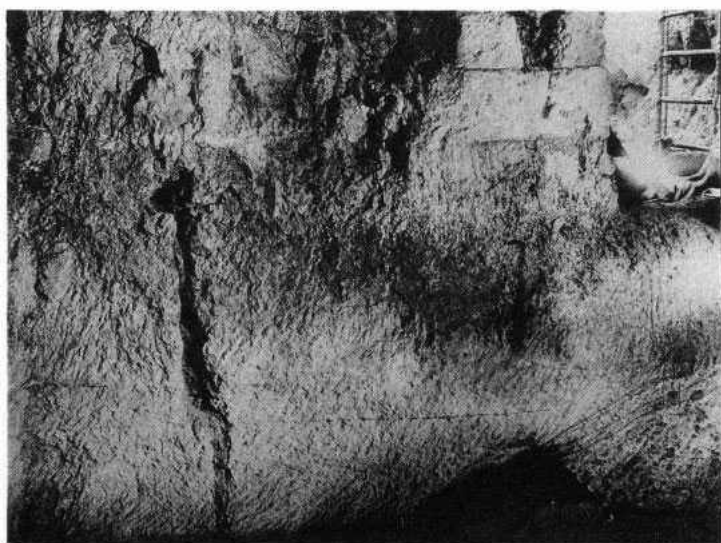
b. G 1223 A, SE corner of chamber stripped of lining: 1905.



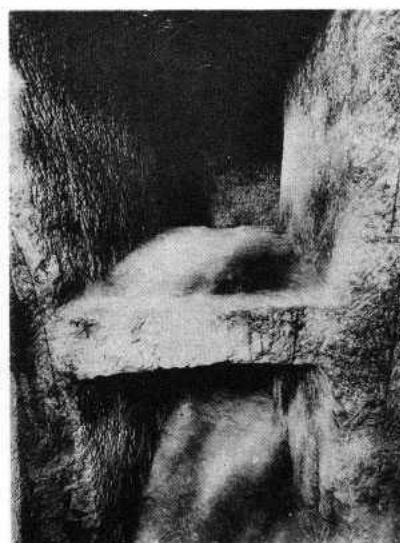
c. G 1225 A, Chamber, entrance doorway, looking north: 1936.



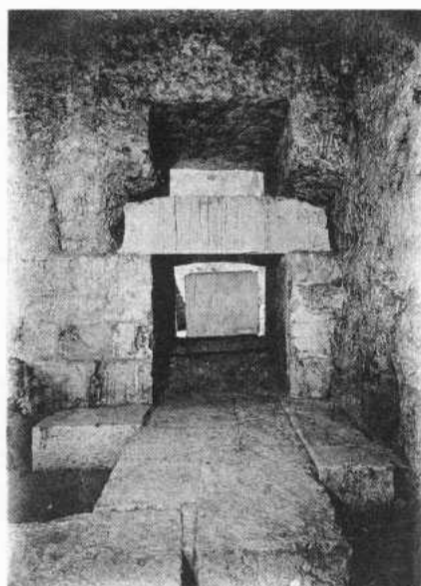
d. G 1225 A, SE corner of chamber, stripped walls and architrave from over doorway: 1934.



e. G 1227 A, North wall of chamber, opening of passage, plaster marks and red line on stripped wall: 1932.



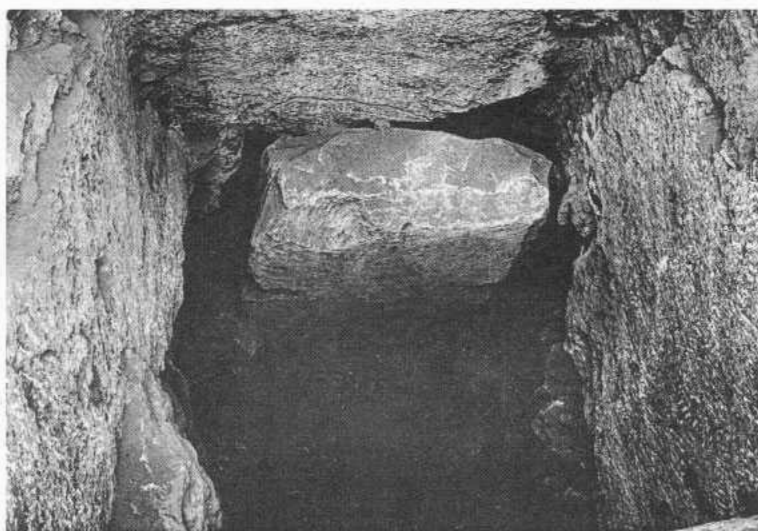
f. G 1233 A, 'Window' over doorway, opening in shaft, looking south: 1936.



a. G 1235 A, North wall of chamber, remains of pavement, and 'window' above doorway: 1934.



b. G 1235 A, looking down shaft to south; coffin half drawn out of chamber into shaft; roofing of passage: 1934.



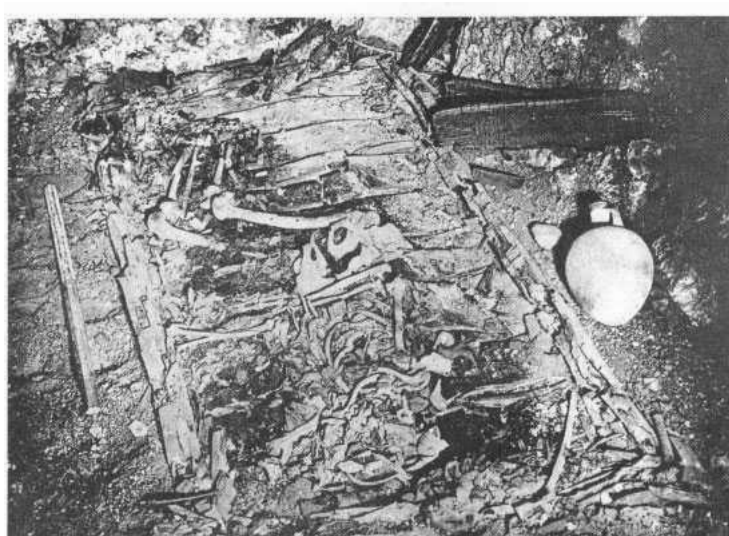
c. G 1233 annex, looking down shaft to south, portcullis slab in place: 1905.



d. G 1233 annex, Shaft looking south, interior e.b. blocking of passage: 1905.



e. G 1233 annex, Collapsed wooden coffin and two jugs in chamber: 1905.



f. G 1233 annex, Skeleton on floor of coffin: 1905.



a. Mastaba G 2000 and Cem. G 2100, looking north from Chephren pyramid: 1905-6.



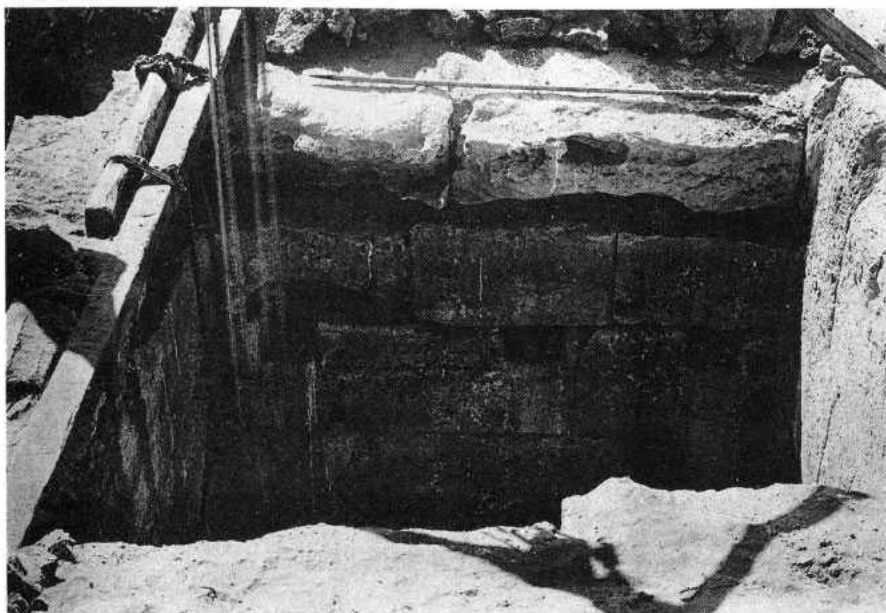
b. G 2000, Eastern face, middle part with chapel partly excavated.



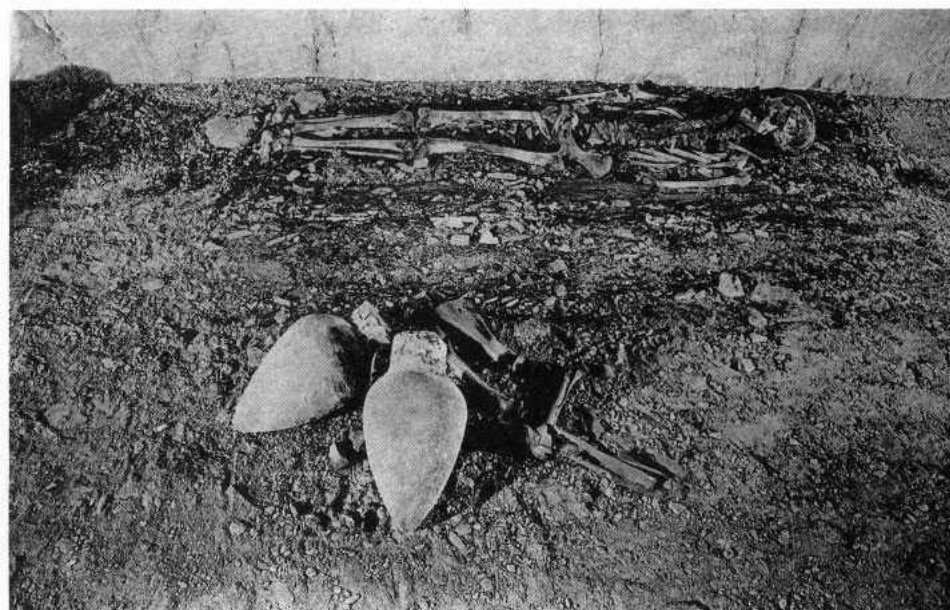
c. G 2000, Chapel, looking west.



d. G 2000, North end and subsidiary north niche, looking west: 1912.



a. G 2000, shaft B, Top looking down to south: 1912.



b. G 2000 B, Burial in chamber, looking west: 1912.



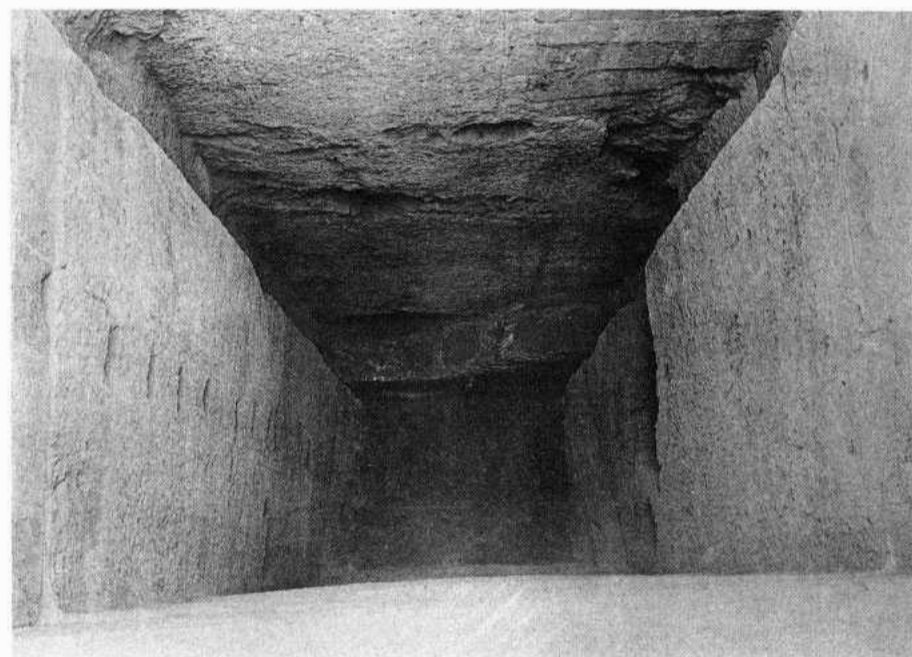
c. Cem. G 2100 before excavation, looking ESE from G 2000: 1905.



d. G 2100 and G 2100-I annex, East face, looking SSW: 1905-6.



a. G 2100, Emplacement for slab-stela and destroyed chapel, looking west: 1905-6.



b. G 2100 A, Porticulis grooves and shaft: 1905-6.



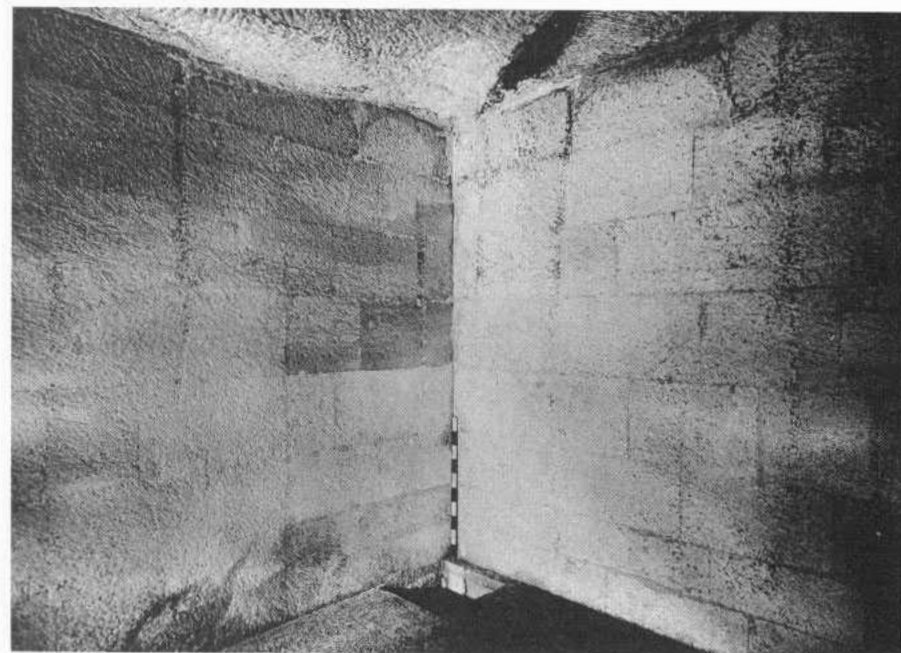
c. G 2100 A, North wall of chamber and blocking in passage: 1905-6.



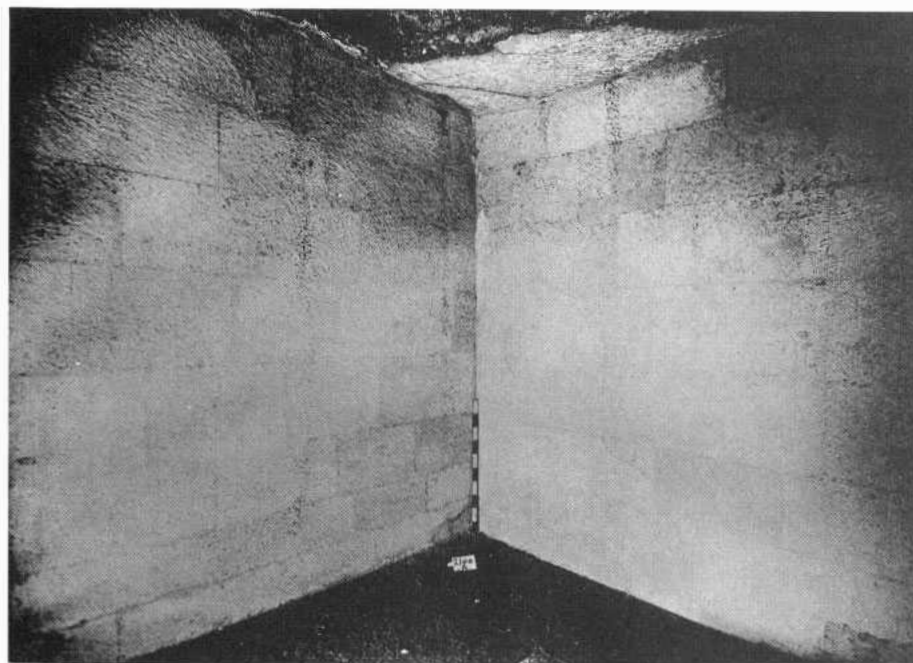
d. G 2100 A, Remains of burial in NW corner of chamber: 1905-6.



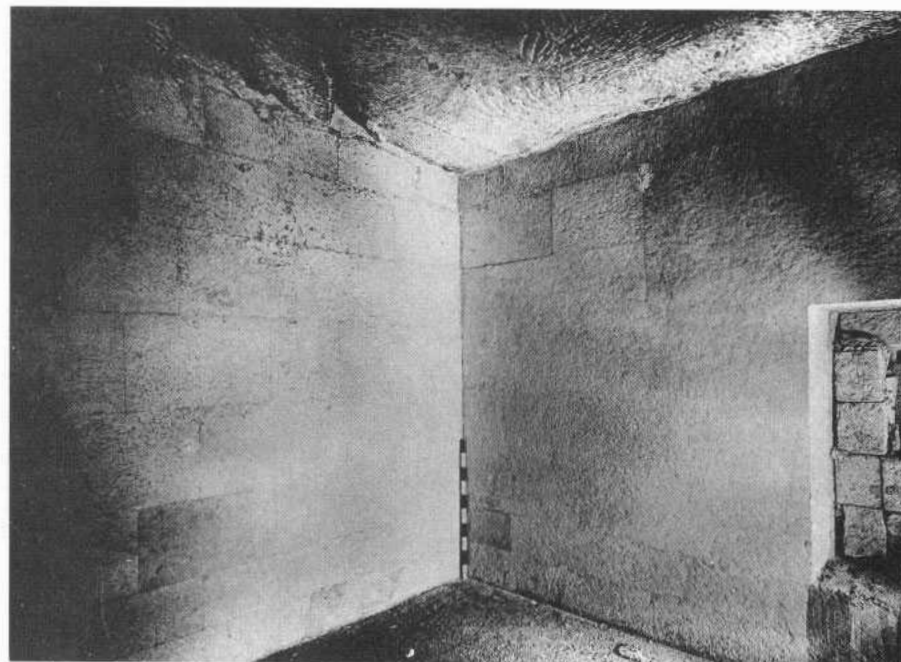
a. G 2100 A, SE corner of chamber with canopic pit, scattered bones and models: 1905-6.



b. G 2100 A, SE corner of chamber showing lining: 1936.



c. G 2100 A, SW corner of chamber showing lining: 1936.



d. G 2100 A, NW corner of chamber showing lining: 1936.



a. G 2110, East face and exterior chapel, looking SW: 1905-6.



b. G 2110, Chapel, looking west: 1905-6.



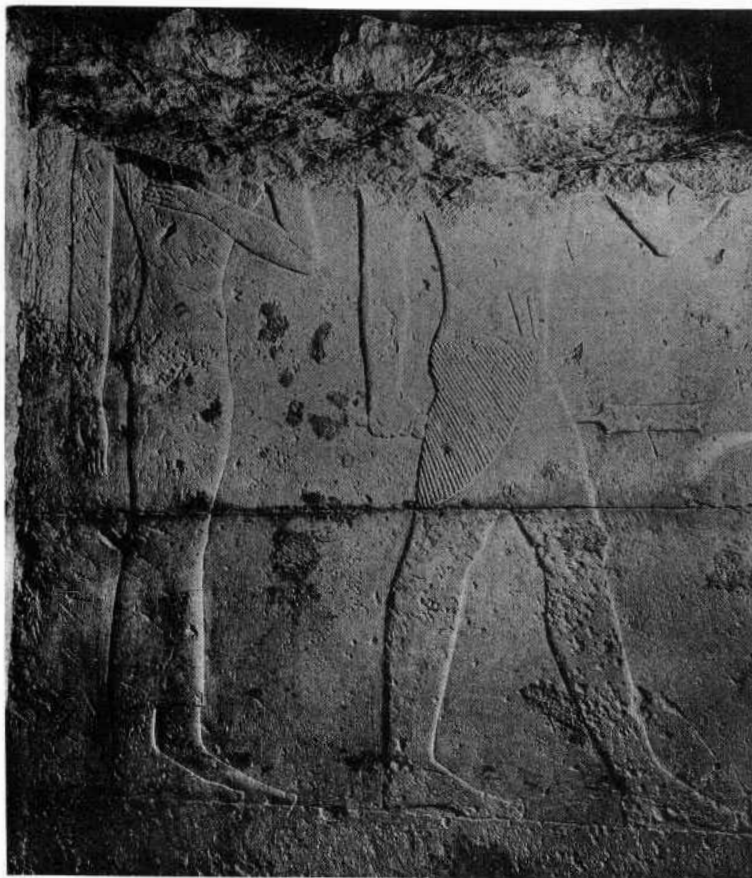
c. G 2110, Stepped face of core and casing north of chapel, looking south: 1905-6.



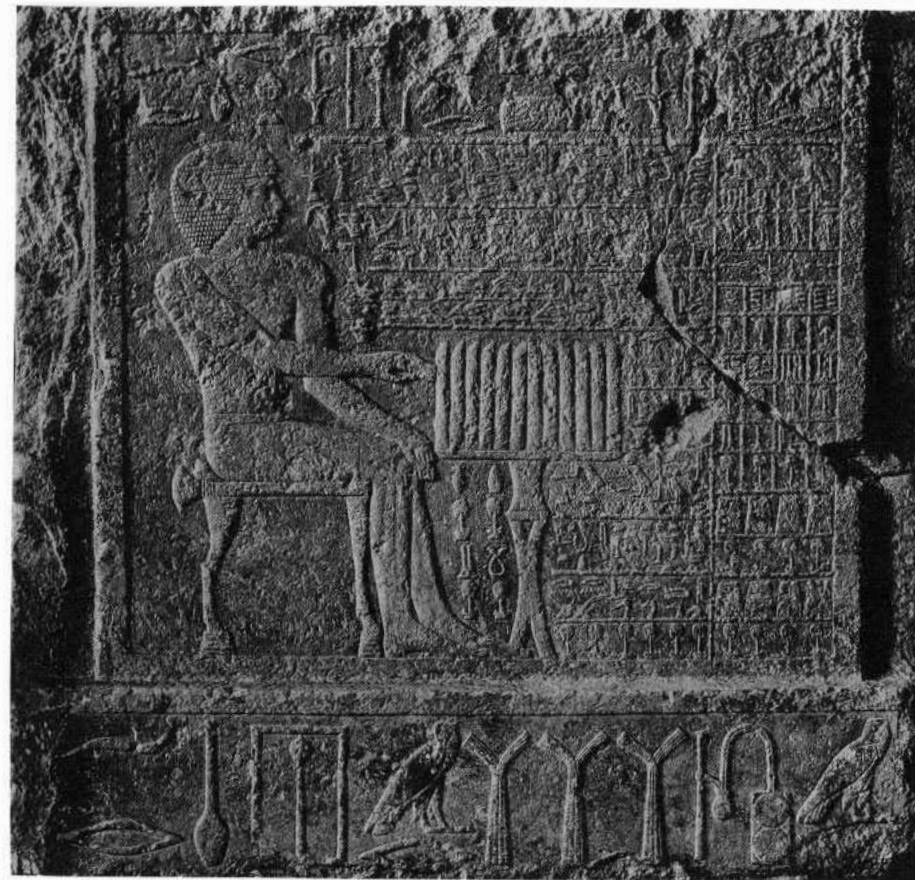
a. G 2110, South entrance jamb of chapel, in Louvre.



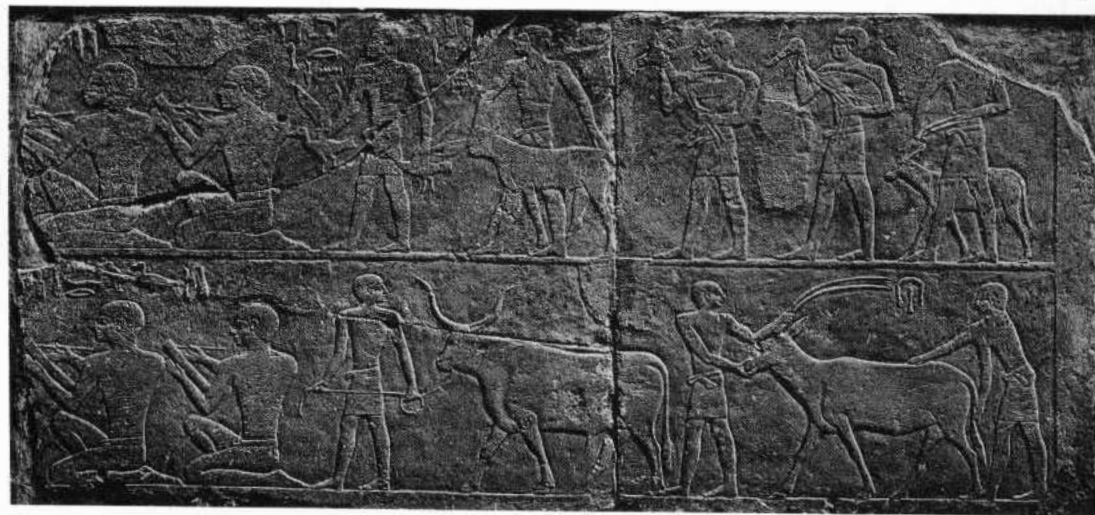
b. G 2110, North entrance jamb of chapel, in Boston, found displaced.



a. G 2110, Chapel, north end of east wall in place.



c. G 2110, Chapel, tablet from false door in west wall, in Barrocco Collection, Rome.



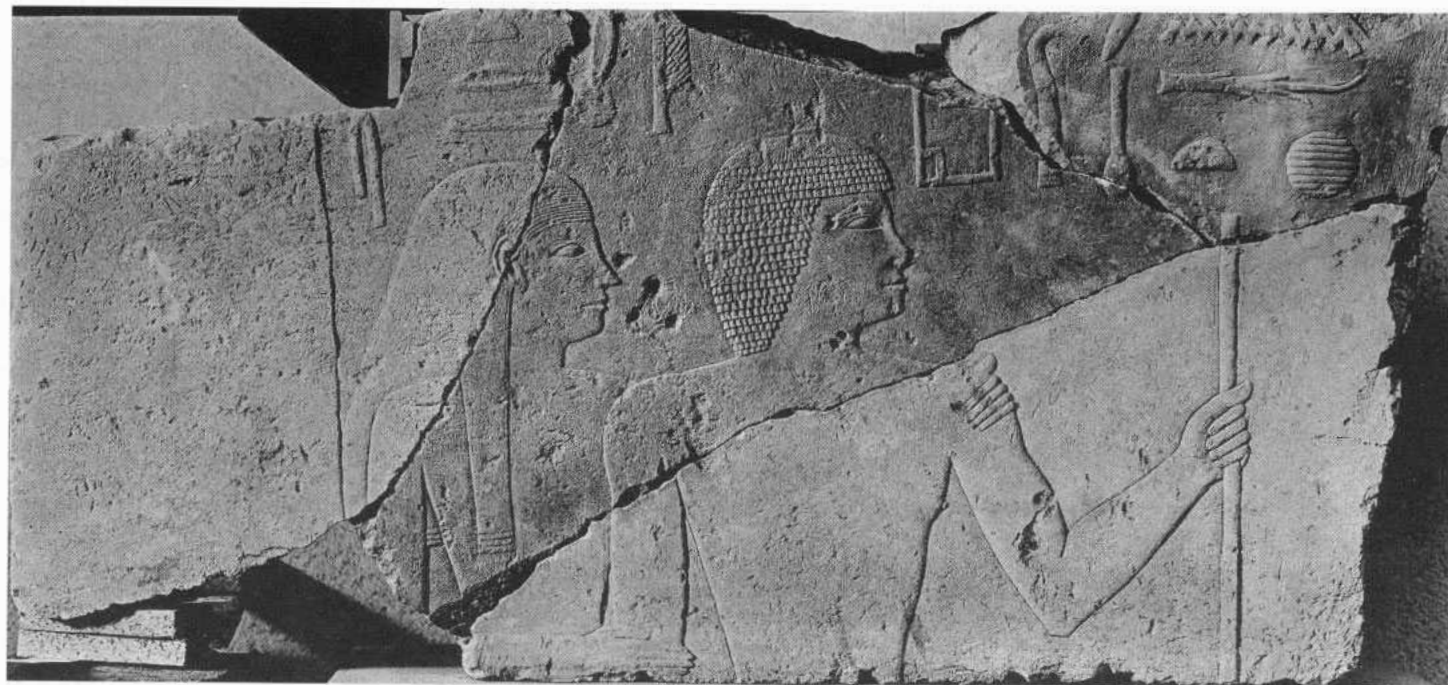
b. G 2110, Chapel, blocks from south end of east wall, in Glyptothèque Ny Carlsberg, Copenhagen.



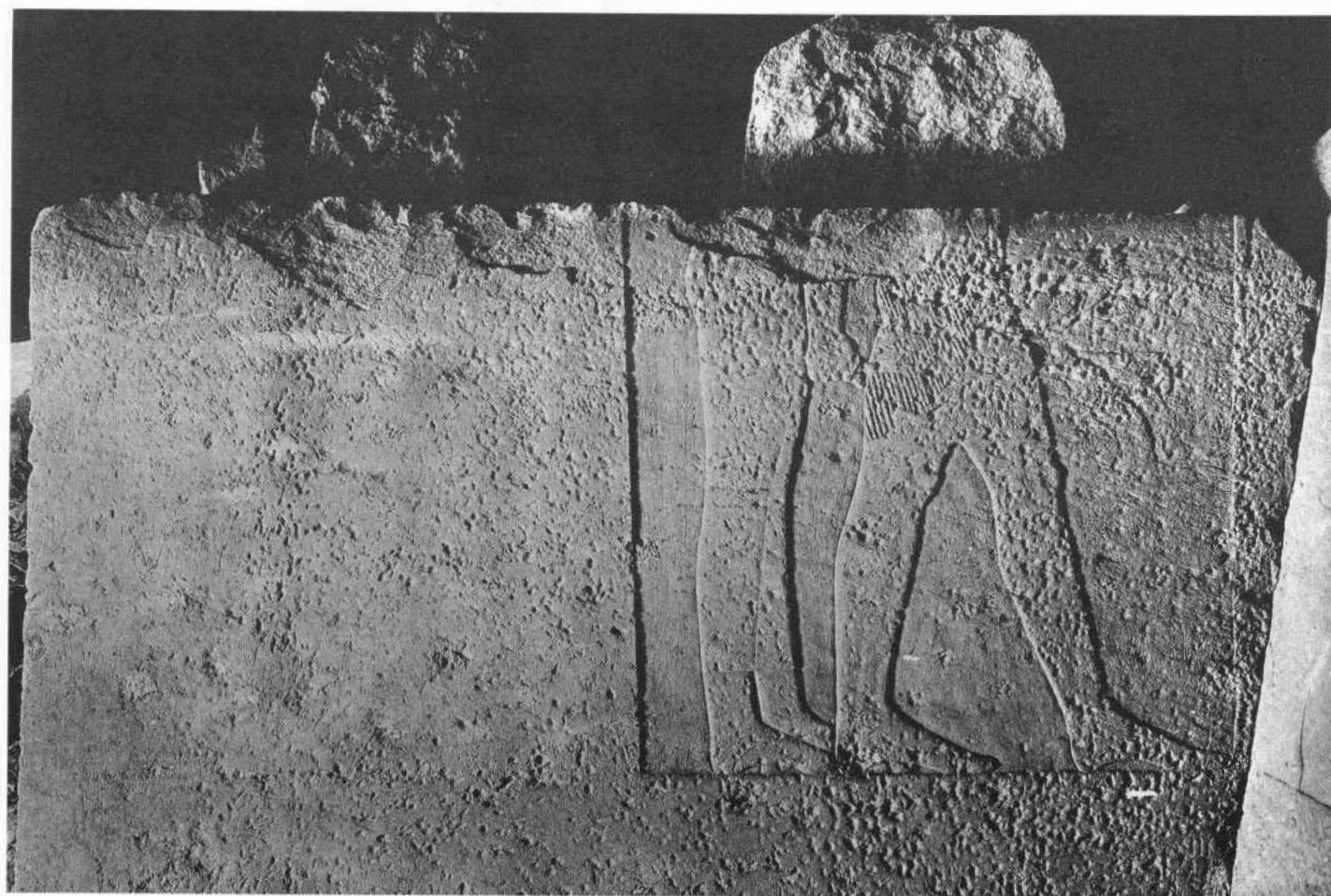
a. G 2110, Chapel, south half of west wall in position.



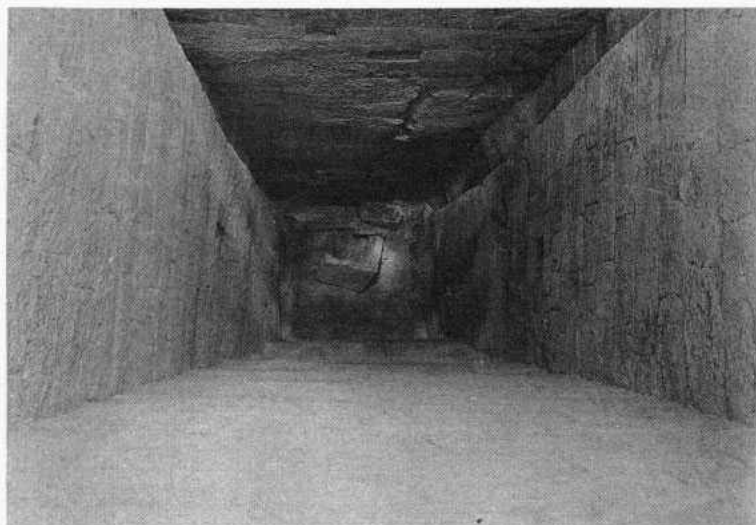
b. G 2110, Chapel, adjoining part of west wall, in Glyptothèque Ny Carlsberg, Copenhagen.



a. G 2110, Chapel, fragments of upper part of south wall, in Boston, found displaced.



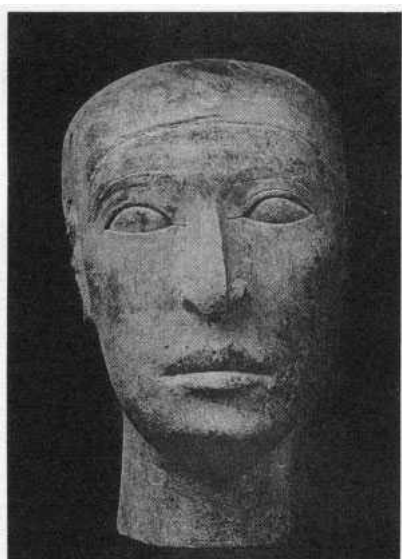
b. G 2110, Chapel, lower part of south wall in place.



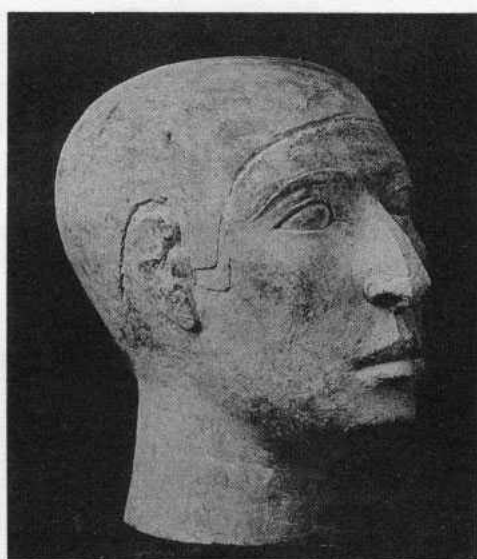
a. G 2110, shaft A, Portcullis stone and fragment of coffin in bottom of shaft.



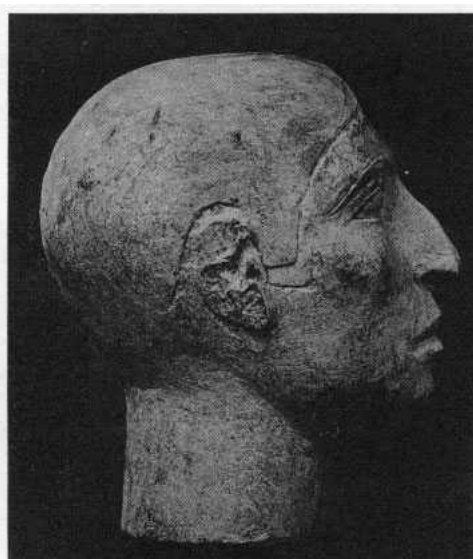
b. G 2110 A, Reserve head as found.



c.

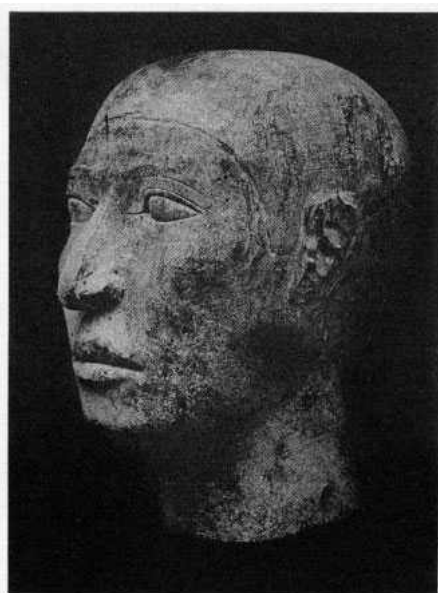


d.



e.

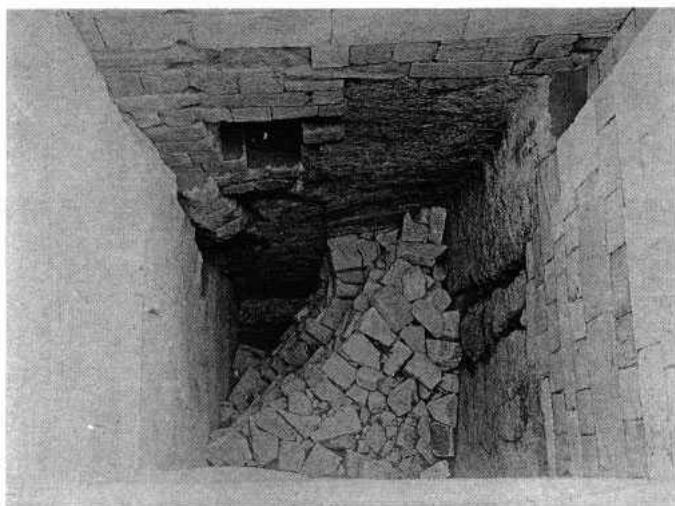
c-f. G 2110, Reserve head of Nofer.



f.



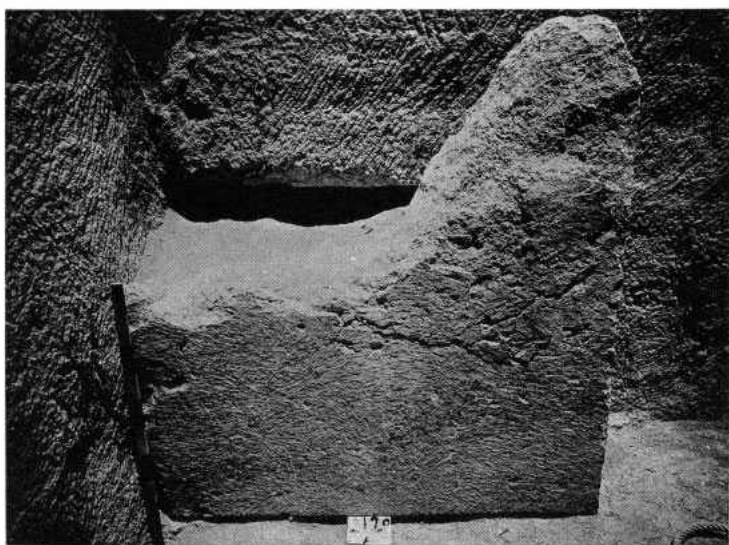
g. G 2120, East face looking SW: 1906.



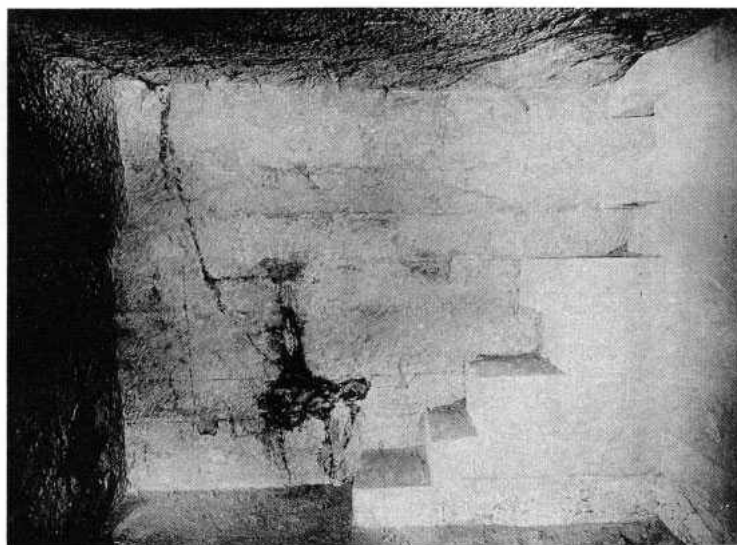
a. G 2120 A, Packing of broken stones in shaft: 1906.



b. G 2120 A, Objects in bottom of shaft: 1933.



c. G 2120 A, Portcullis slab, looking south.



d. G 2120 A, Lining of west wall of chamber: 1933.



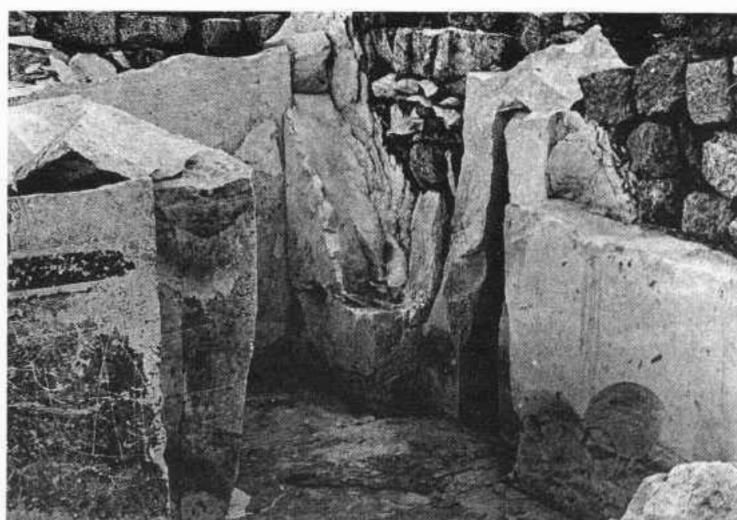
e. G 2130, South and east faces, looking NW: 1905-6.



f. G 2130, North and east faces, looking WSW: 1936.



a. G 2130, Interior chapel, looking west.



b. G 2130, Interior chapel, looking SW from inside doorway.



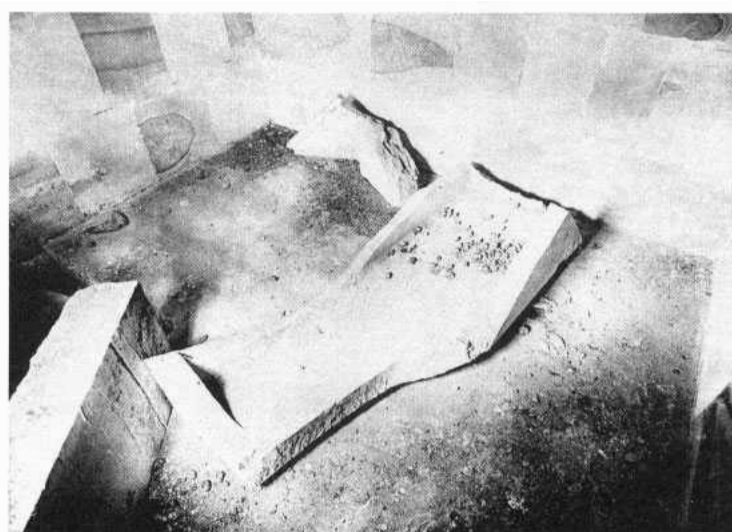
c. G 2130, North panel of *ka*-door: 1930.



d. G 2130, Inscription on back of inner niche of *ka*-door: 1931.



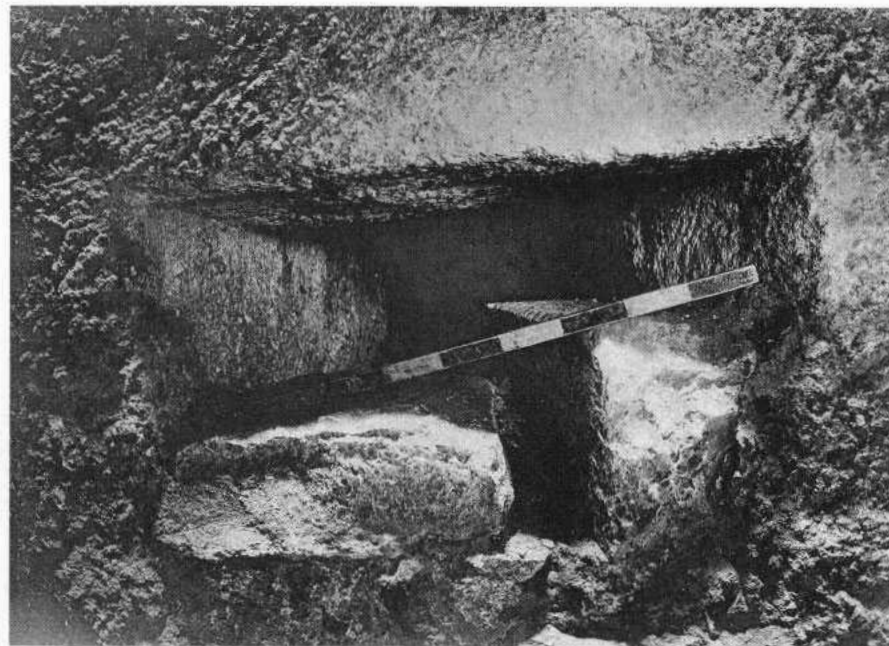
e. G 2130, Casing and core, middle of east face, looking north.



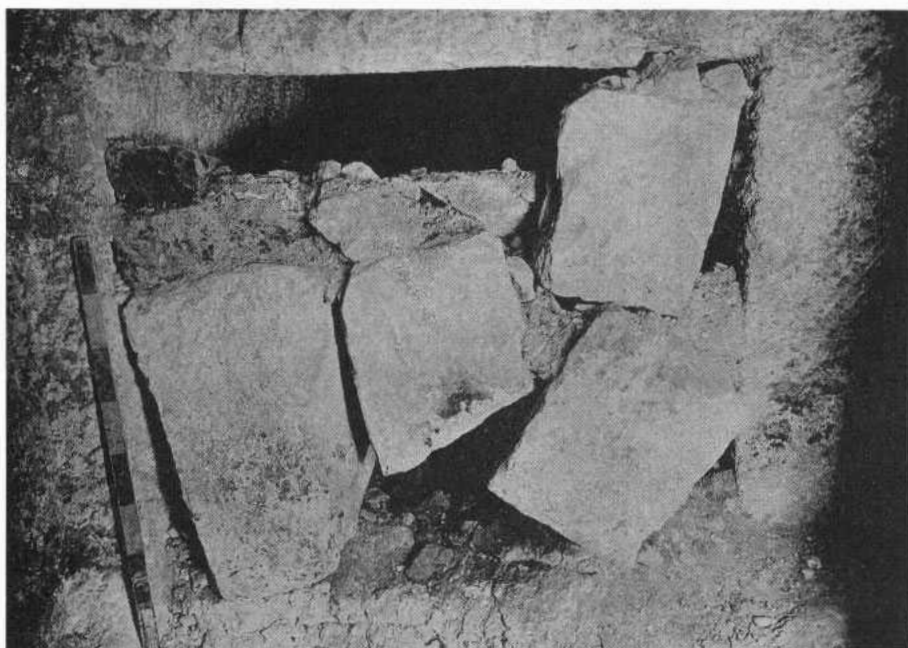
f. G 2130 A, Burial chamber, looking SW: 1932.



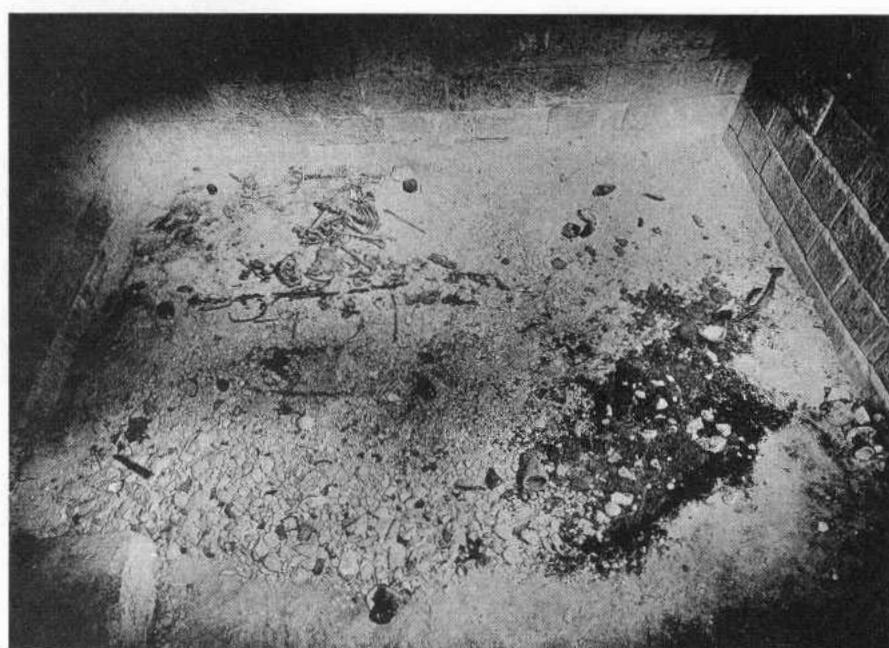
a. G 2210, South end, looking west; stepped core, massive enlargement, and chapel recess: 1935.



b. G 2210 A, 'Window' over passage to chamber, looking south.



c. G 2210 A, Blocking of passage, looking south.



d. G 2210 A, Chamber as found, looking west.



a. G 2140, East face, looking SW: 1937.



b. G 2140, Unfinished inscription on architrave of *ka*-door in interior chapel, type (3 a).



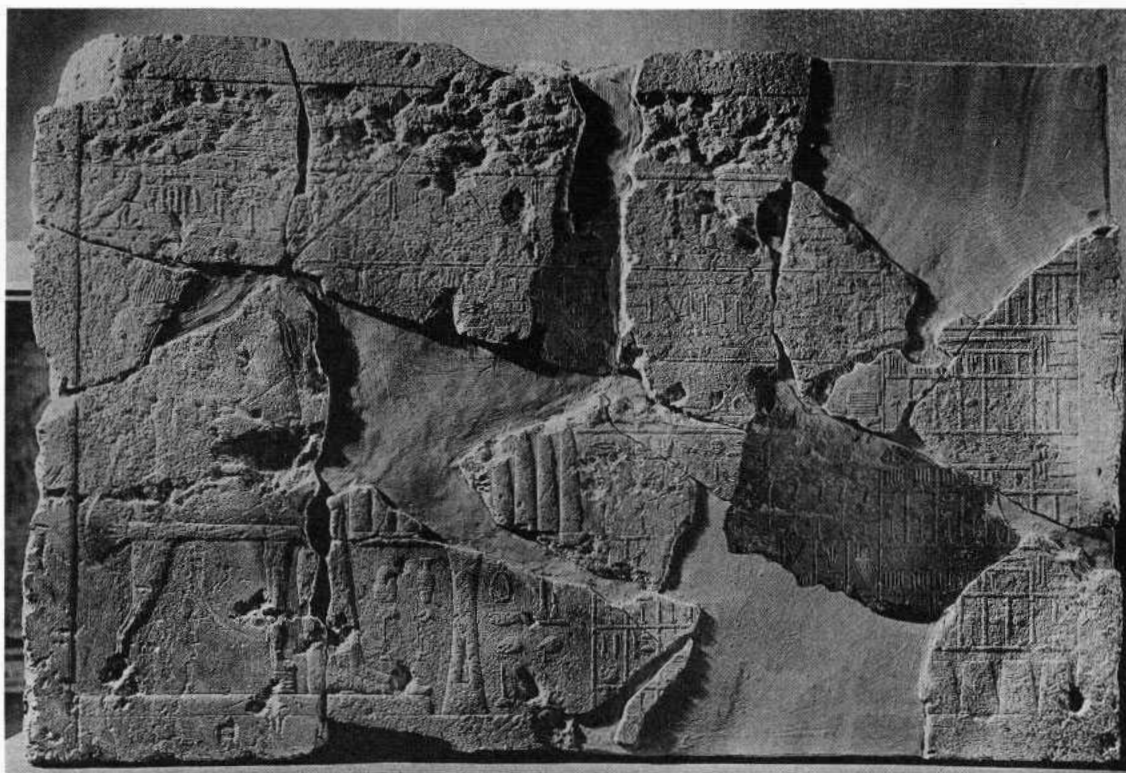
c. G 2150, East face and exterior c.b. chapel, looking south: 1912.



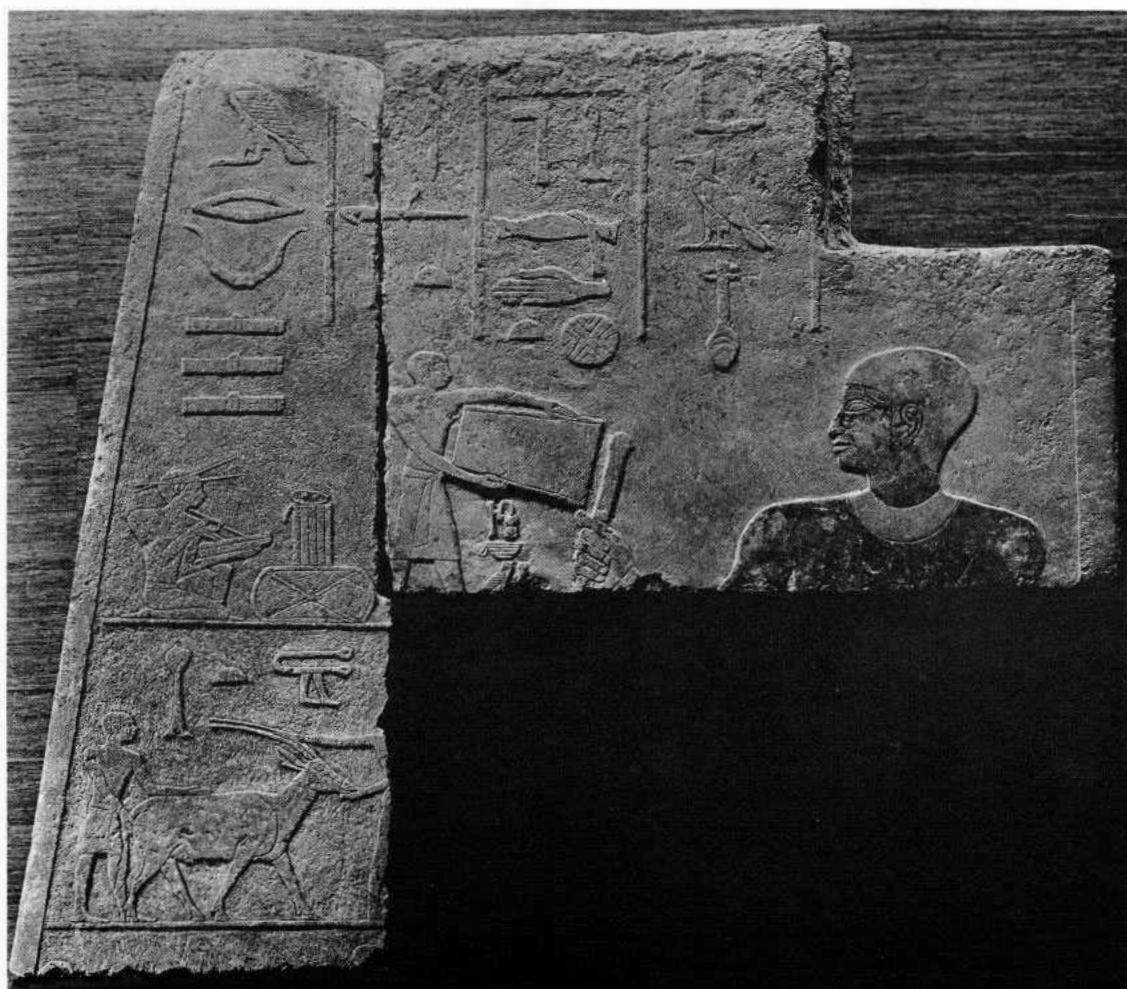
d. G 2150, Entrance to interior chapel of type (4 a), looking west: 1912.



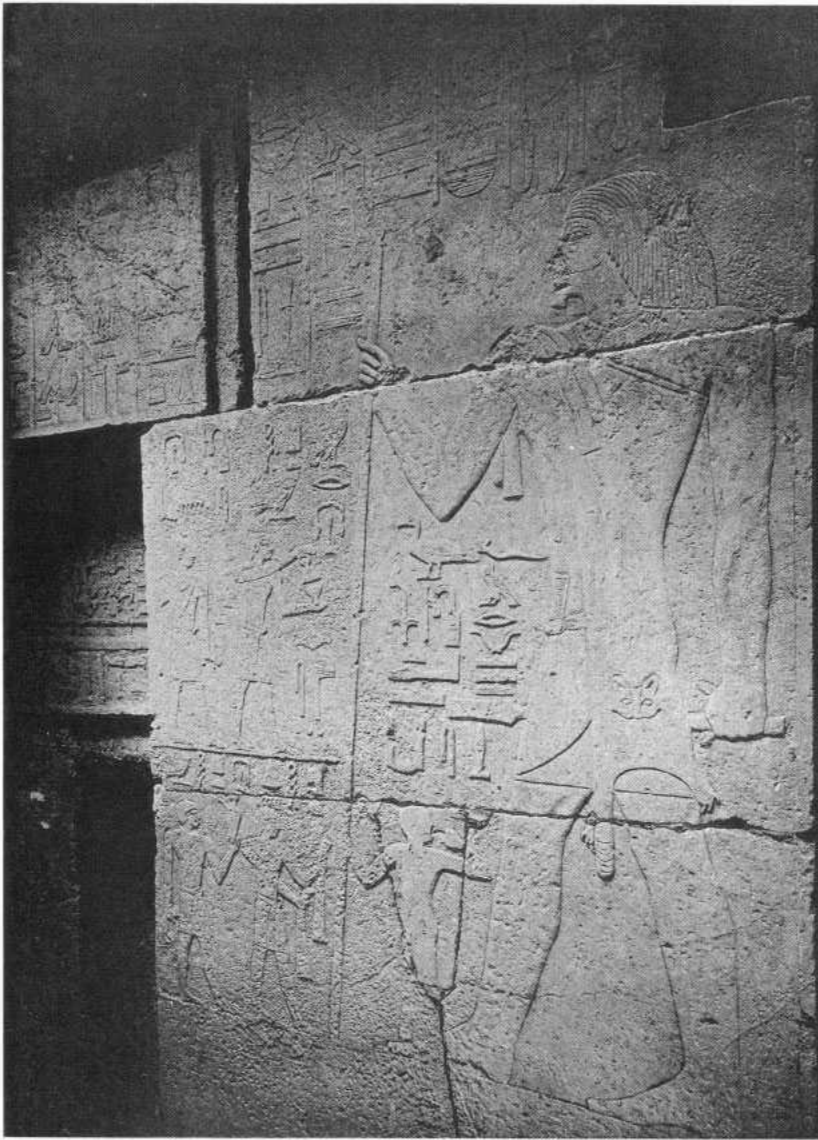
e. G 2150 A, Granite coffin in chamber, looking south: 1933.



a. G 2120, Slab-stela of Seshat-sekhentyuw.



b. G 2150, Blocks from south jamb of chapel entrance.



a. G 2150, West wall of interior chapel.



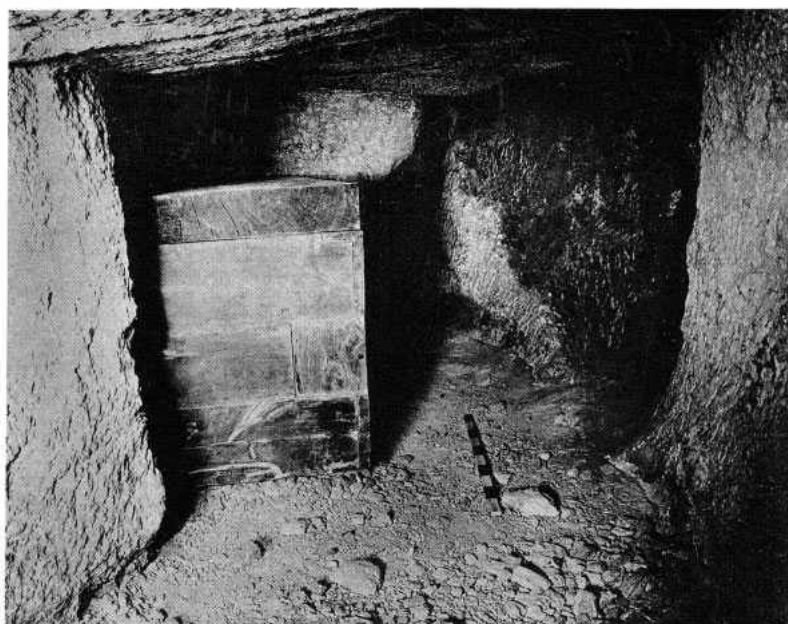
b. G 2150, South wall of interior chapel.



a. G 2220, North end of east wall of interior chapel.



b. G 2220, South end of east wall of interior chapel.



a. G 2220, shaft B, Wooden coffin in chamber, looking north.



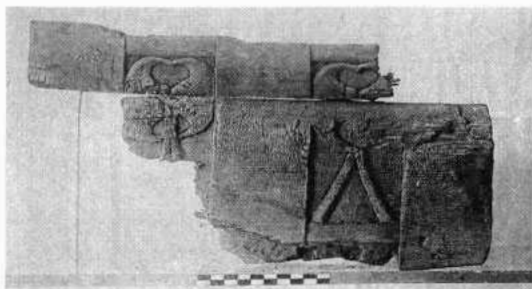
b. G 2220 B, Linen breasts from mummy.



c. G 2220 B, Mummy in coffin.



d. G 2220 B, Mummy: wrappings imitate dress of woman.



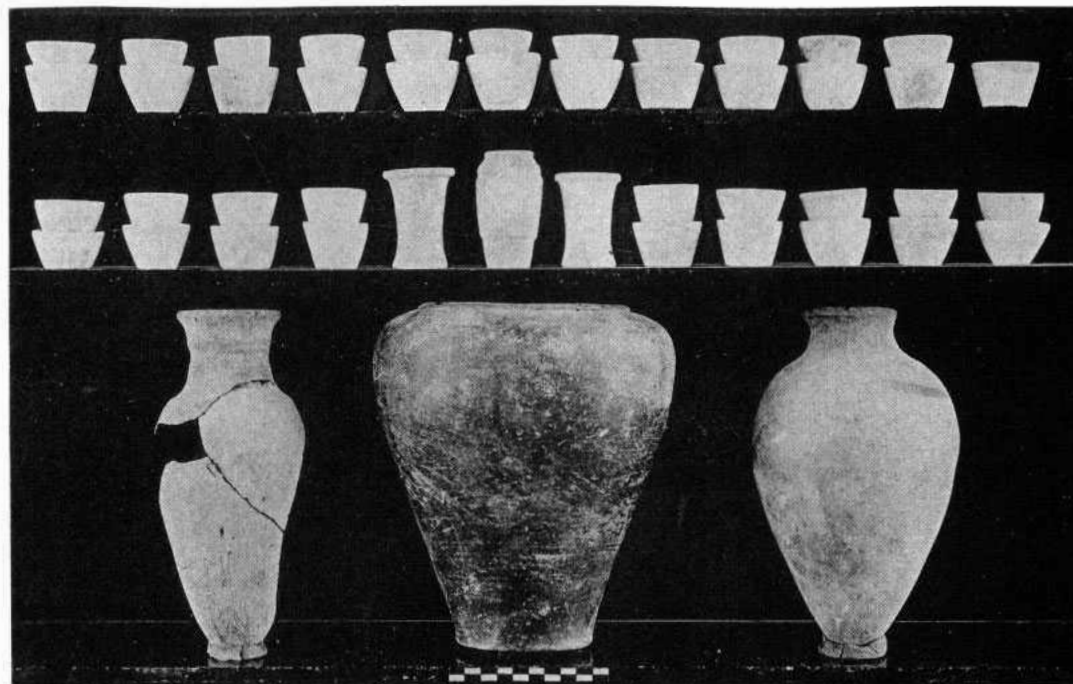
a. G 2150 A, Fragment of carved wood from burial-chamber,



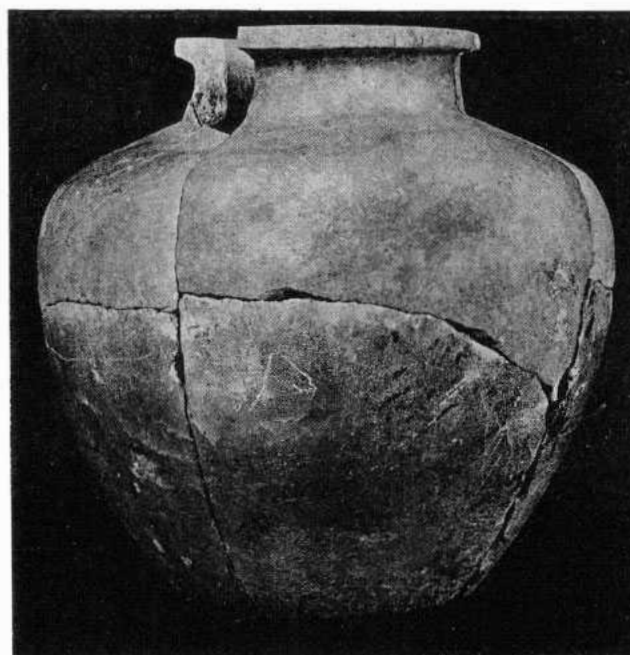
c. G 2150 A, From chamber, copper models and other objects.



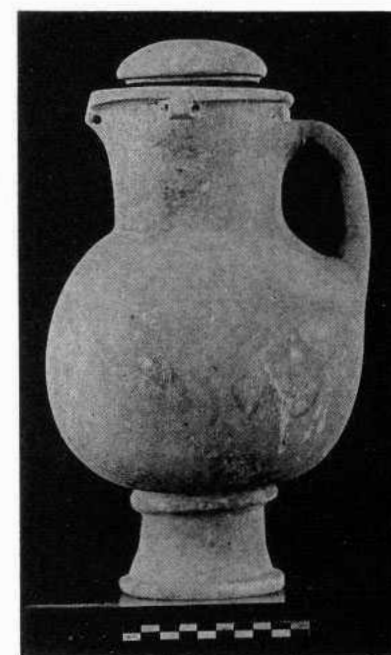
d. G 2120, Alabaster models and pottery; G 2160, Pottery bowl.



b. G 2150 A, Model alabaster vessels and pottery.



e. G 2100 A, Alabaster shoulder jar.



f. G 2120 A, Alabaster jug, type XIV a.



a. Cem. G 4000, looking west from Cheops pyramid: 1913.



b. Cem. G 4000, looking north from Second Pyramid: 1915.



a. Cem. G 4000, Street between lines 4 and 5, looking north from south end of G 4411: 1914.



b. Cem. G 4000, Street between rows 4 and 5, looking south from north of G 4440: 1914.



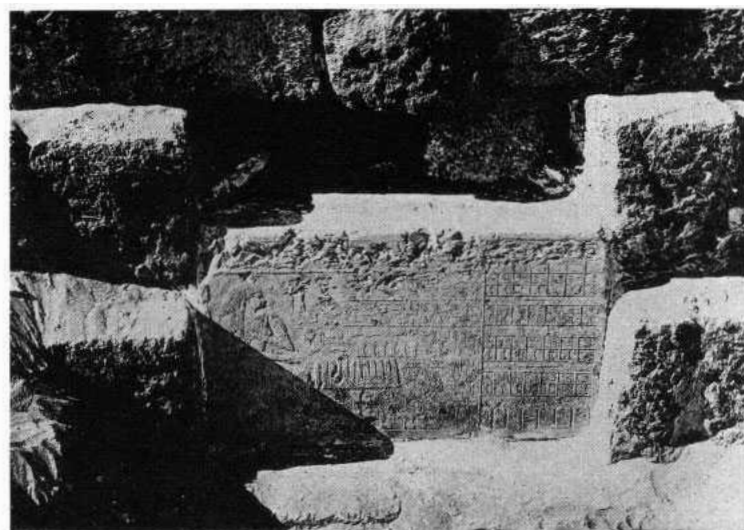
c. Cem. G 4000, Street between rows 5 and 6, looking north from south end of G 4520: 1914.



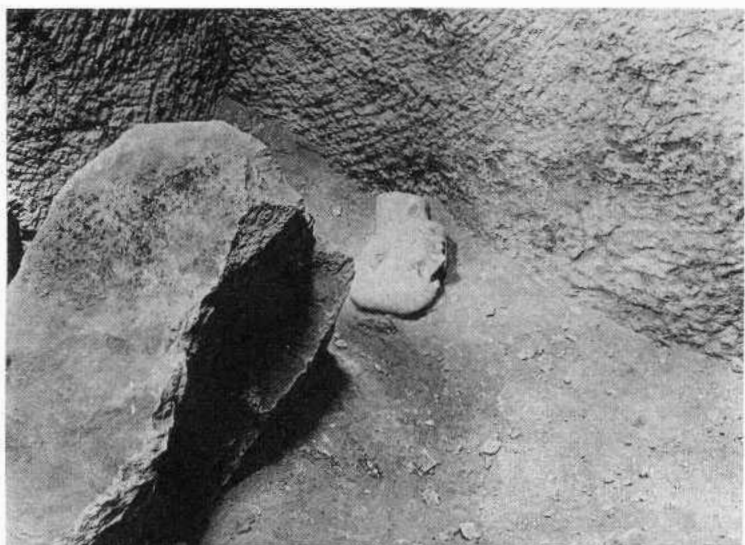
d. Cem. G 4000, Street between rows 6 and 7, looking north from south end of G 4620: 1914.



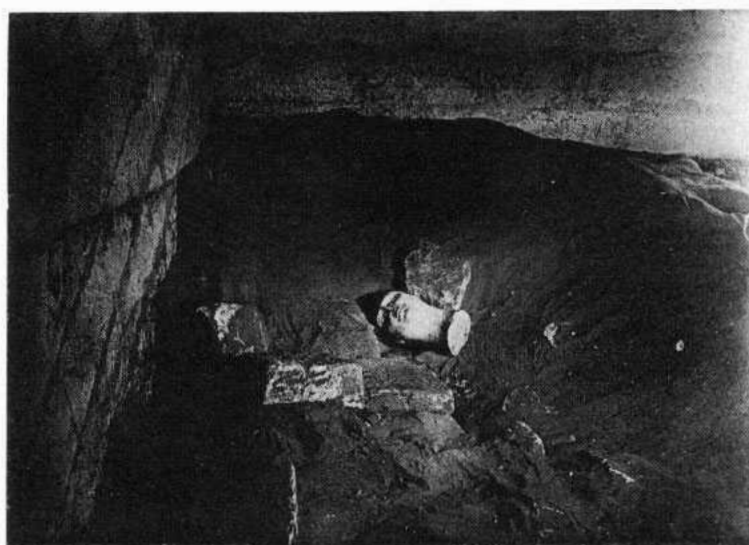
a. G 4140, Remains of chapel, looking NW: 1912.



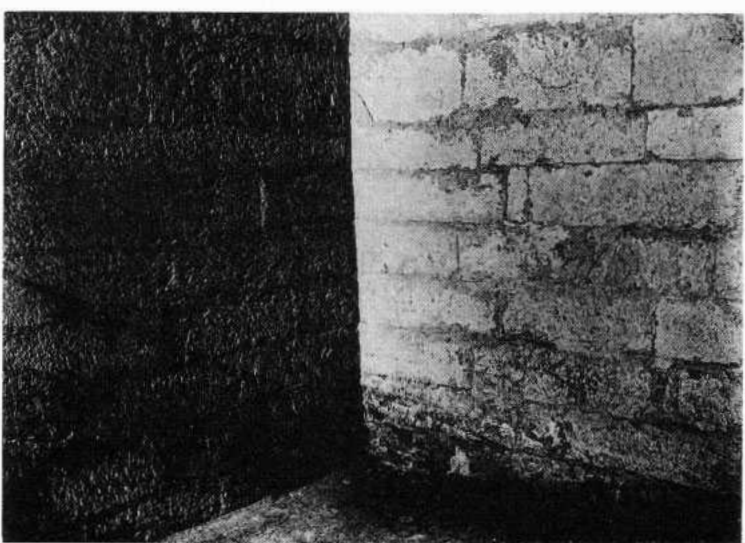
b. G 4140, Slab-stela in place: 1912.



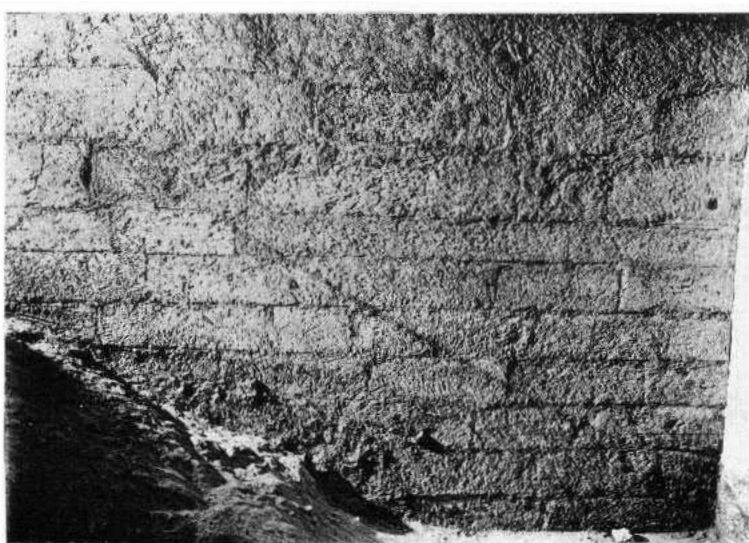
c. G 4140 A, Reserve head in debris in shaft: 1913.



d. G 4140 A, Chamber, second reserve head as found: 1913.



e. G 4140 A, SE corner of lined chamber: 1913.



f. G 4140 A, East wall of lined chamber: 1913.



a. G 4240, Cased mastaba, looking SSW: 1937.



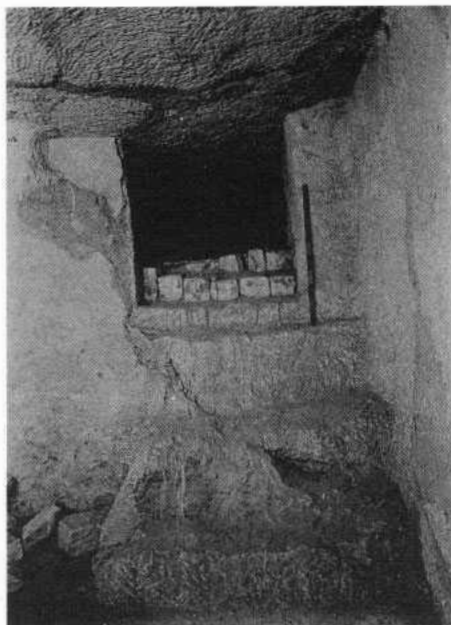
b. G 4240, Chapel, looking down to west: 1914.



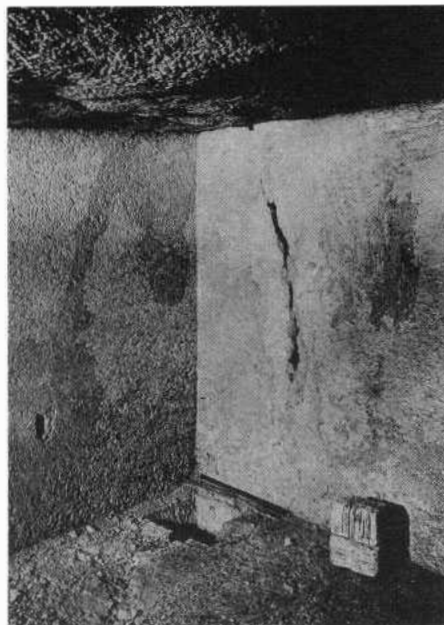
c. G 4240, Chapel, *ka*-door, looking down to west: 1914.



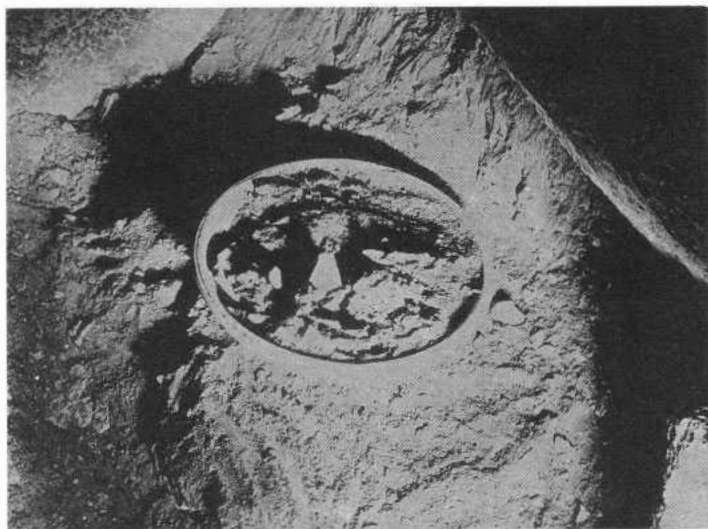
d. G 4240, Exterior stone chapel, looking SW: 1937.



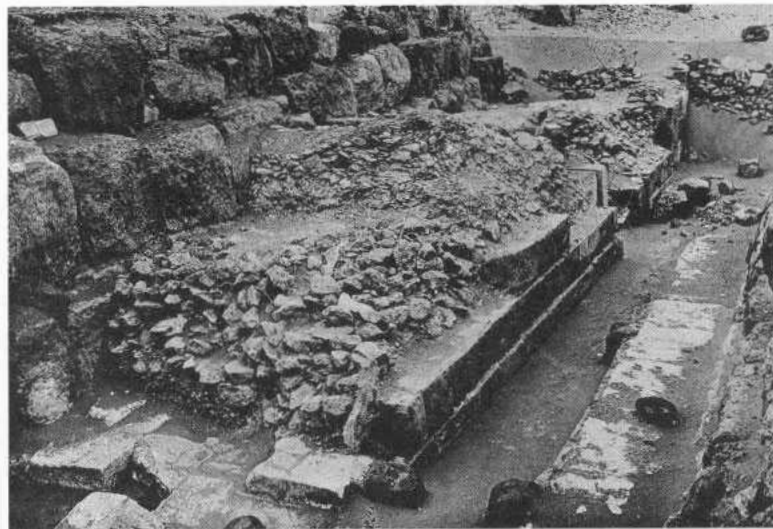
a. G 4240 A, Unlined chamber of type 2, looking north; stair, door, blocking: 1934.



b. G 4240 A, SE corner of chamber with canopic pit: 1934.



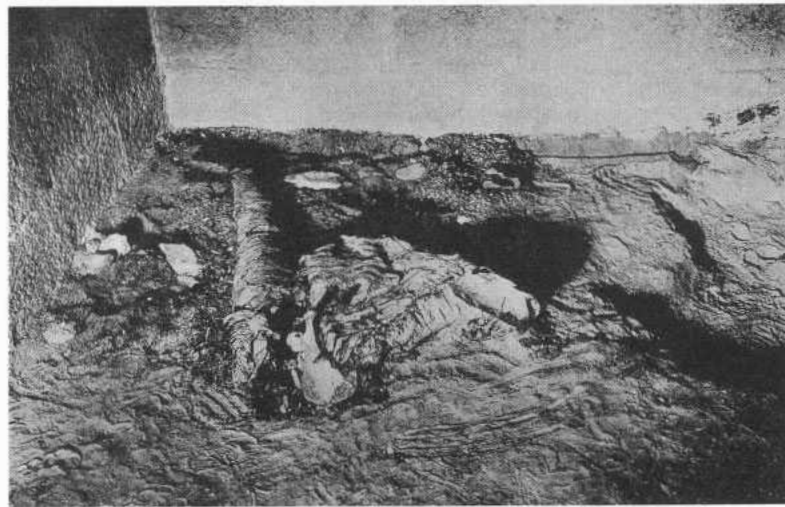
c. G 4240 A, Alabaster vessels in thieves' debris in bottom of shaft: 1913.



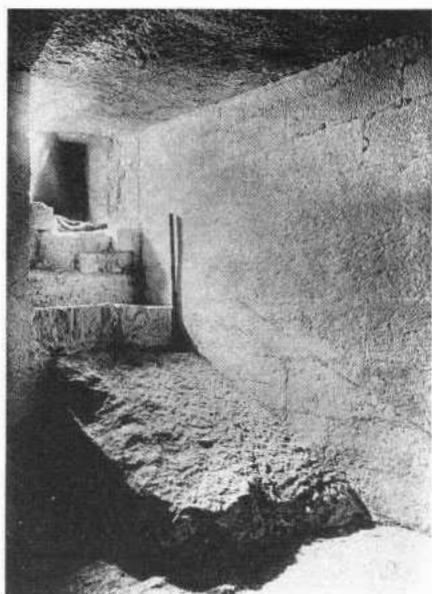
d. G 4340, Chapel and casing, looking NNW: 1914.



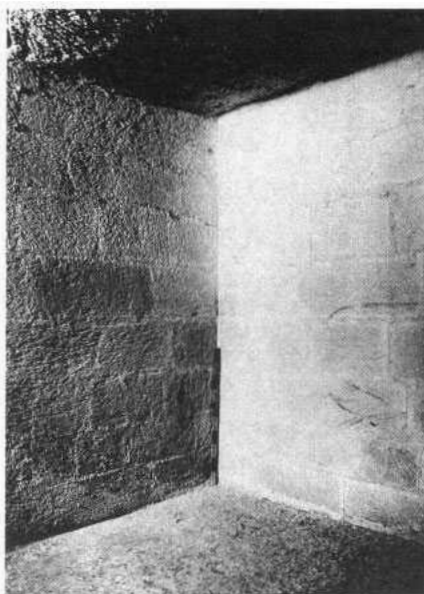
e. G 4340 A, Reserve head in thieves' debris of shaft: 1913.



f. G 4340 A, Mummy thrown aside in SW corner of lined chamber, looking west: 1913.



a. G 4340 A, NE corner of lined chamber, ramp, doorway, and blocking: 1934.



b. G 4340 A, SE corner of chamber: 1934.



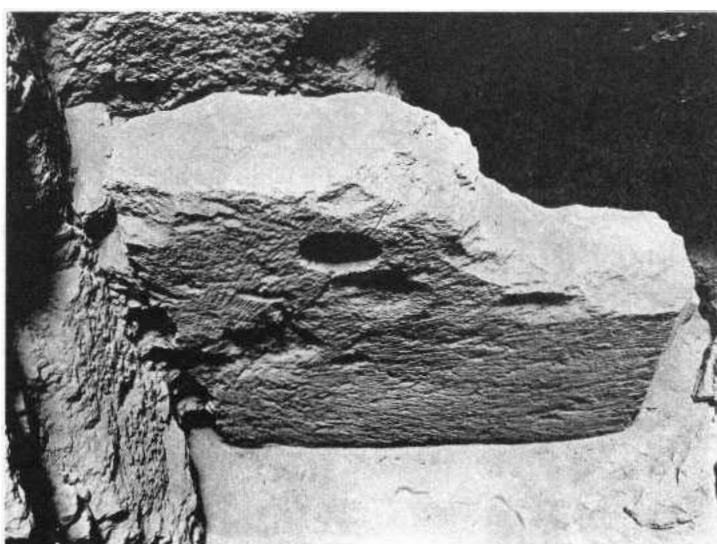
c. G 4440 A, Reserve heads in thieves' debris at bottom of shaft: 1913.



d. G 4540, Street between G 4540 and 4560 showing chapel, looking south: 1914.



e. G 4540 A, Reserve head in shaft just above portcullis slab: 1913.



f. G 4540 A, Portcullis slab in place: 1913.



a. G 4540 A, Blocking, looking south into passage: 1913.



b. G 4540 A, Disturbed burial beside plastered west wall of lined chamber: 1913.



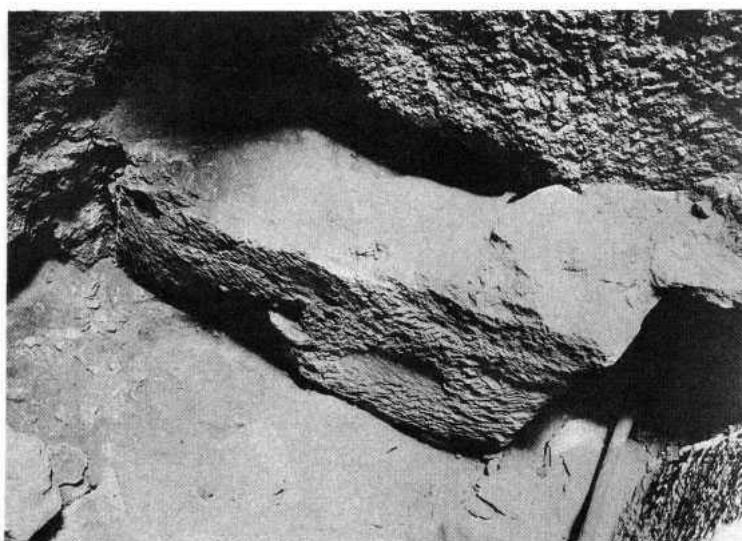
c. G 4540 A, SE corner of plastered lined chamber: 1913.



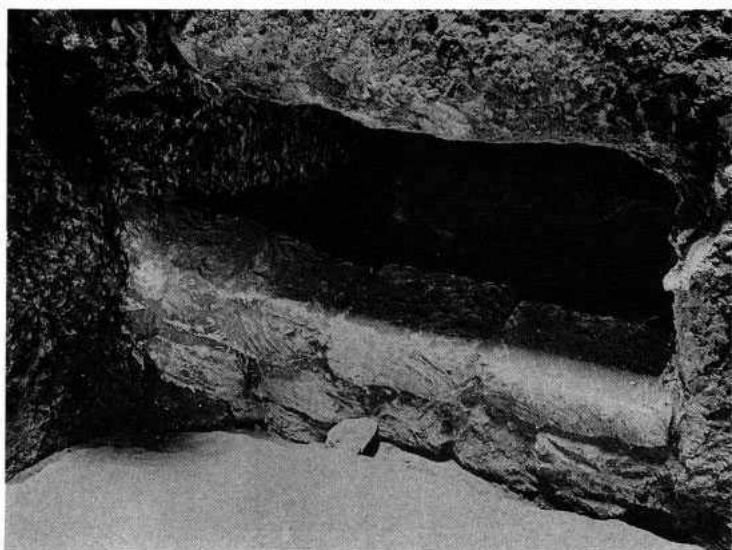
d. G 4640, East face looking north showing remains of chapel and monolithic stela: 1913.



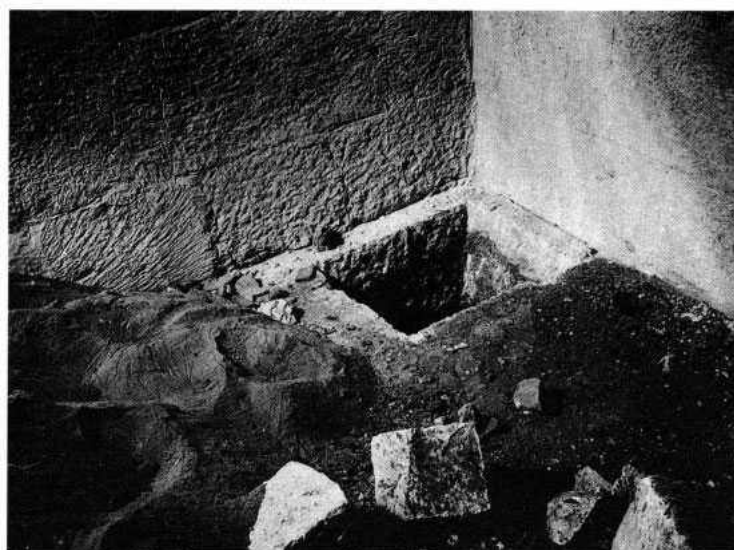
e. G 4640 A, Reserve head in bottom of shaft: 1913.



f. G 4640 A, Portcullis slab, looking down to SSE: 1913.



a. G 4640 A, Blocking in passage, looking south: 1913.



b. G 4640 A, SE corner of lined chamber: 1913.



c. G 4640 A, Canopic pit, human bones scattered by thieves: 1913.



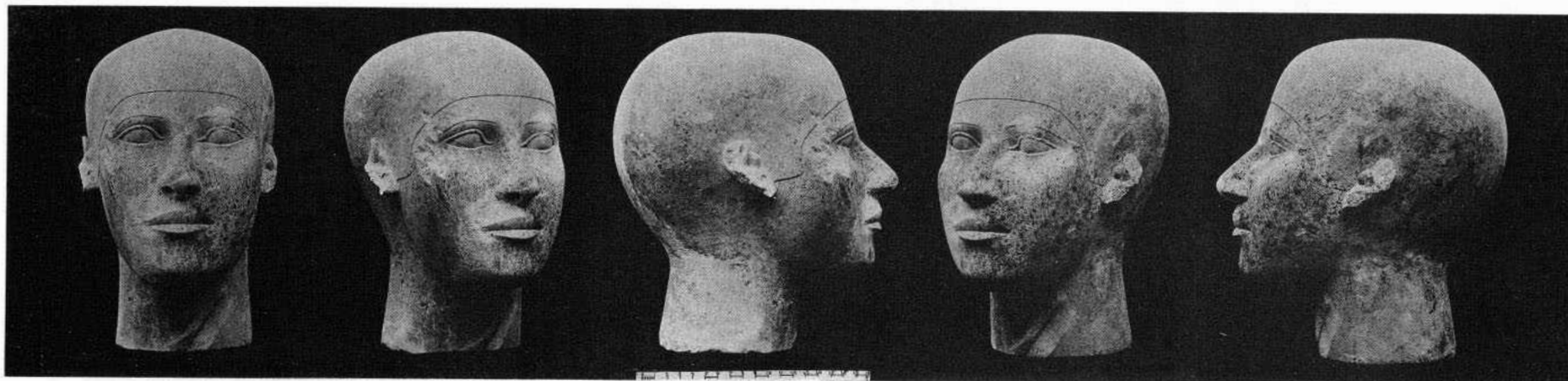
d. G 4740, Street east of mastaba with secondary mastaba, looking south: 1914.



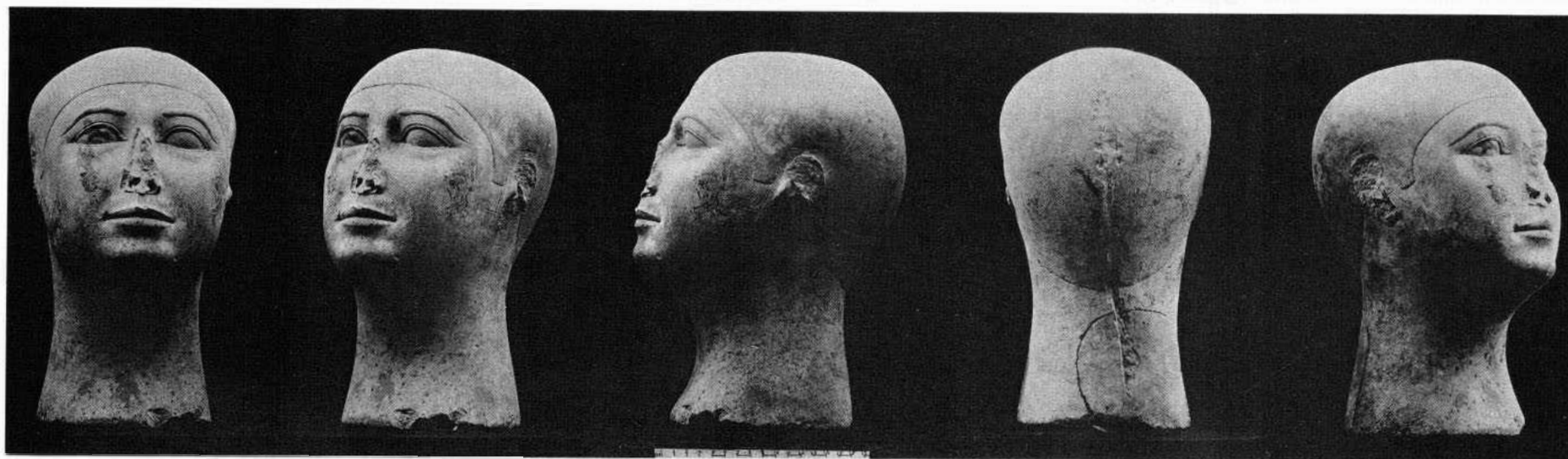
e. G 4740 A, Unlined chamber, looking NE, stair and part of blocking: 1913.



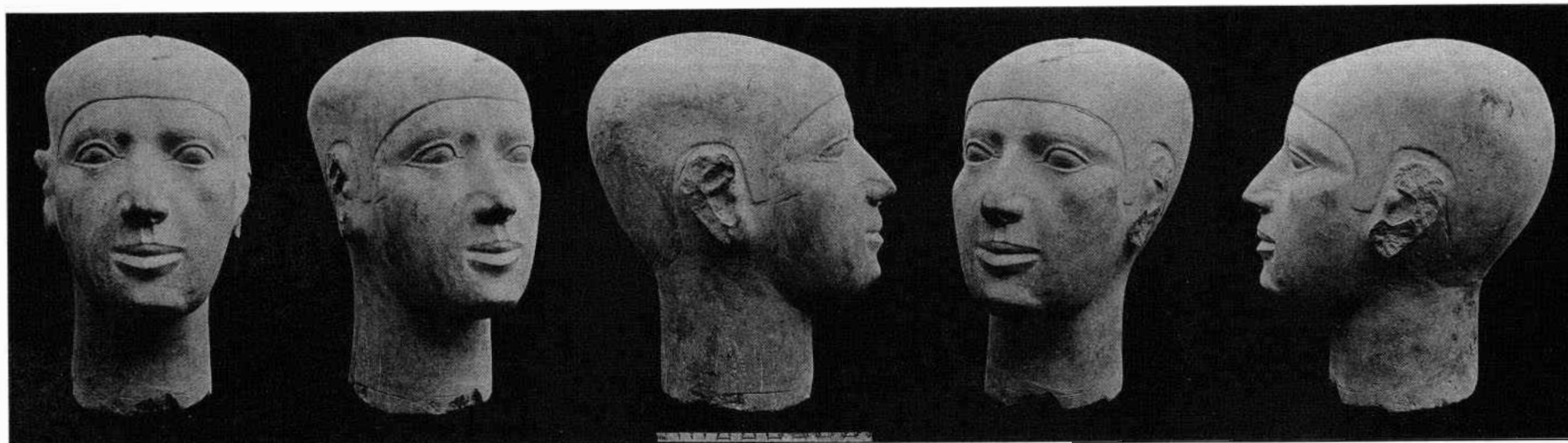
f. G 4740 A, Chamber looking WNW, showing remains of burial: 1913.



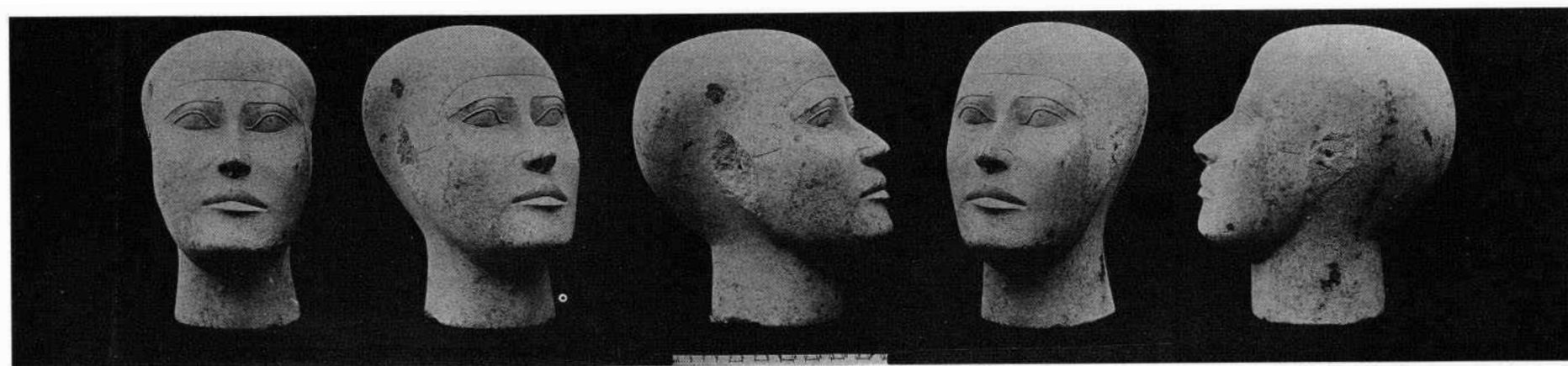
a. G 4140 A, Reserve head of husband of princess.



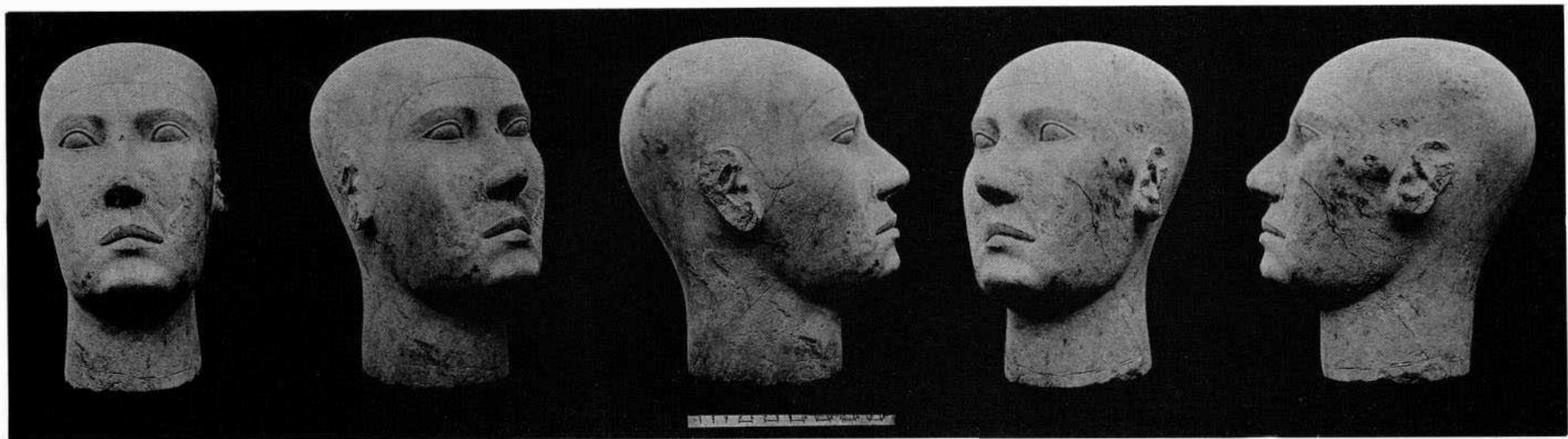
b. G 4140 A, Reserve head of Princess Merytyetes.



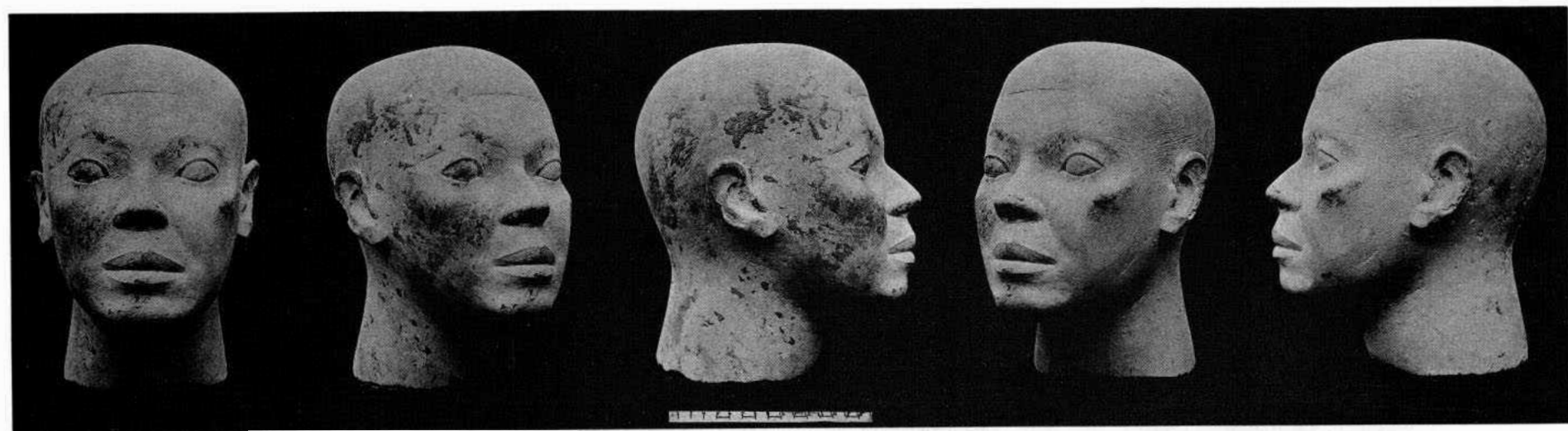
a. G 4240 A, Reserve head of Prince Sneferuw-seneb.



b. G 4340 A, Reserve head of man.



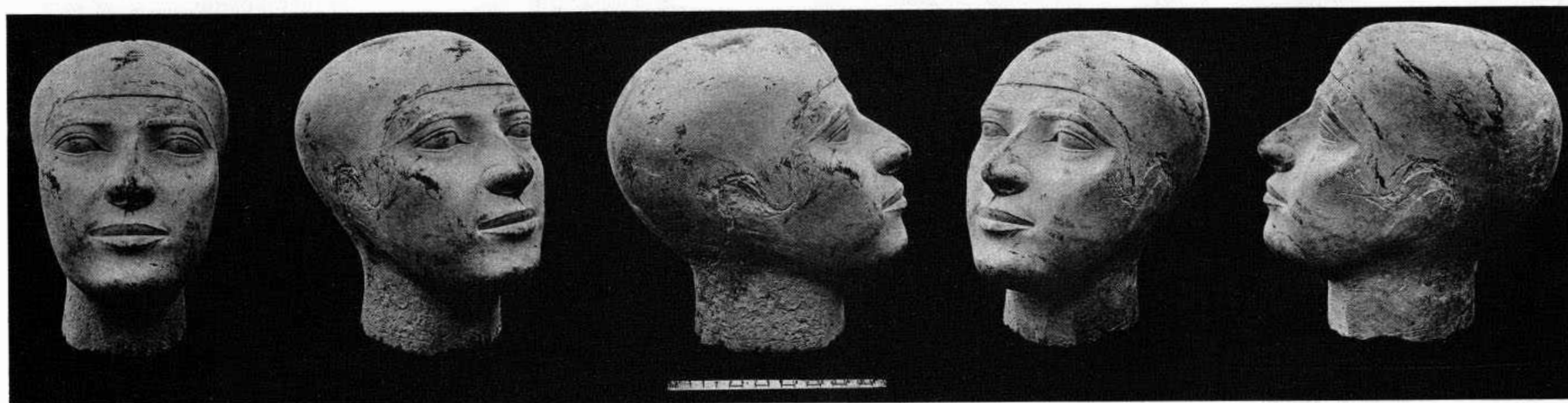
a. G 4440 A, Reserve head of man.



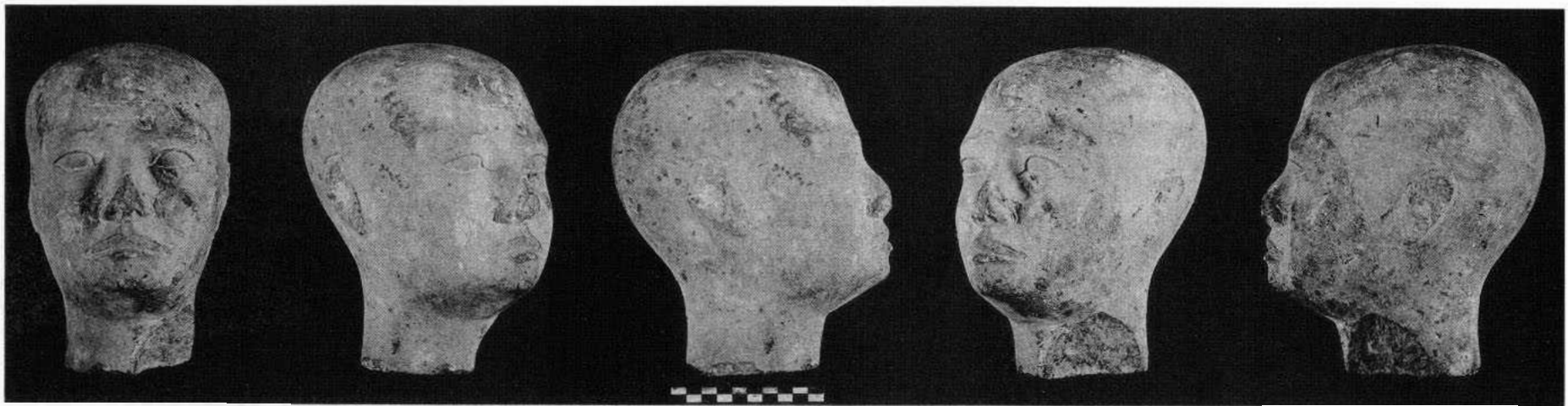
b. G 4440 A, Reserve head of woman.



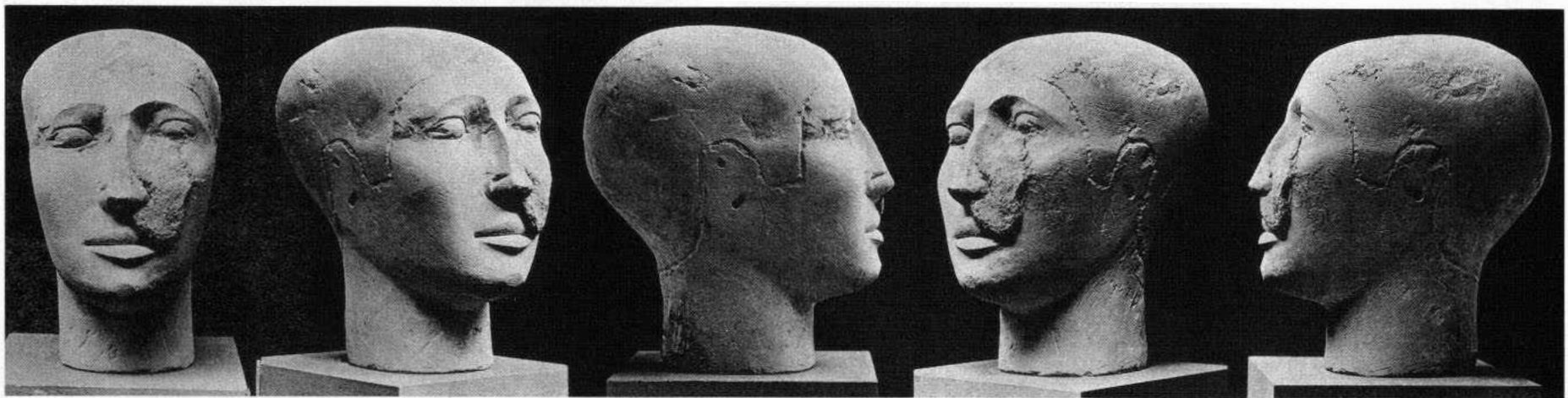
a. G 4540 A, Reserve head of woman.



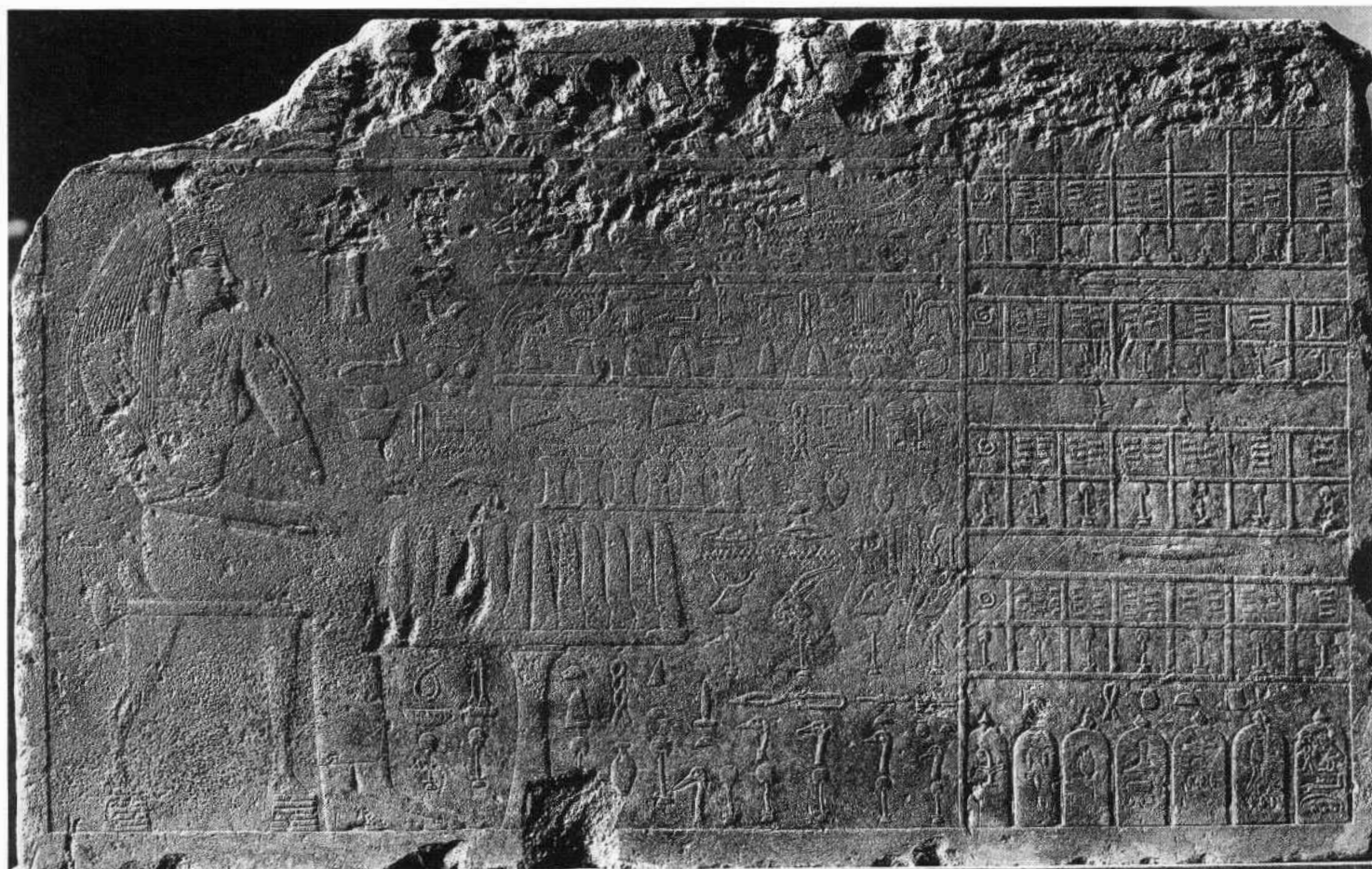
b. G 4640 A, Reserve head of man.



a. Reserve head of woman found in thieves' debris of pit G 5020 annex, perhaps from G 4240 A.



b. Reserve head of man intrusive in G 4940 B.



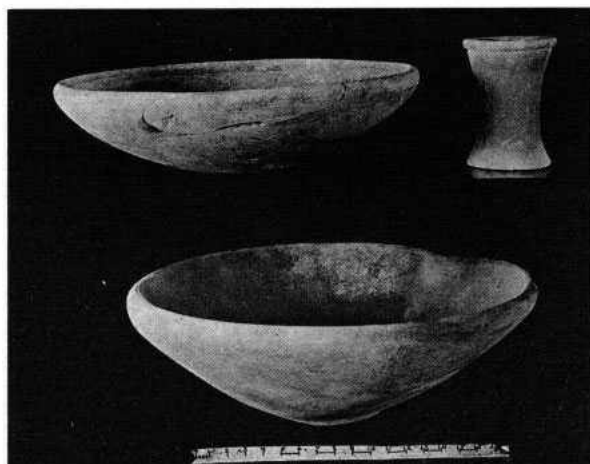
a. G 4140, Slab-stela of Princess Merytyetes.



b. G 4240, Tablet from *ka*-door of chapel of Prince Sneferuw-seneb.



a. G 4340, Alabaster model basins.



b. G 4640 A, Two alabaster bowls and cylindrical jar.



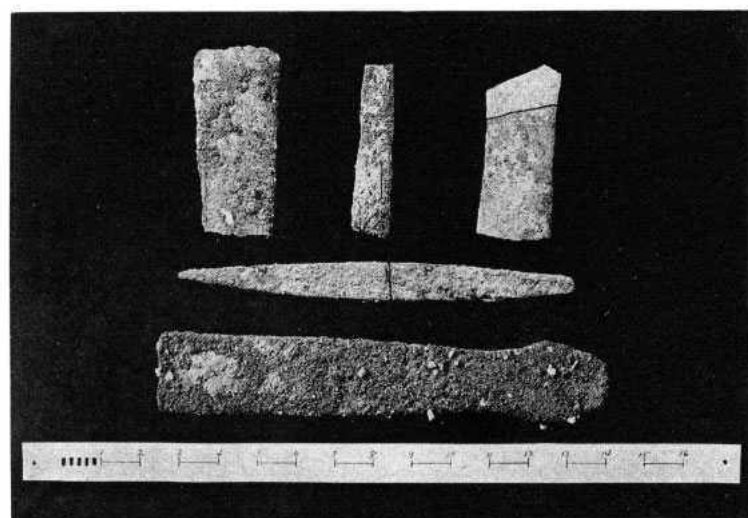
c. G 4240, Alabaster bowl and cylindrical jar.



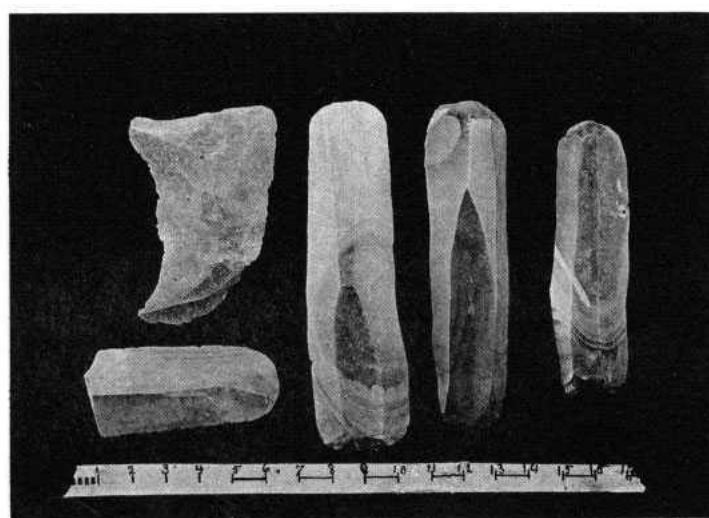
d. G 4140 A, Half of two-handled hammer of white limestone.



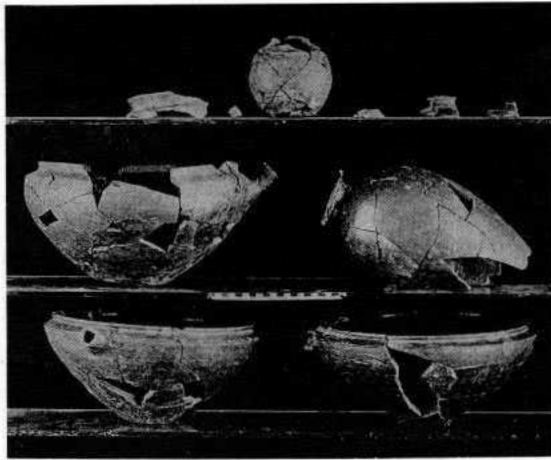
e. G 4140 A, Alabaster model vessels.



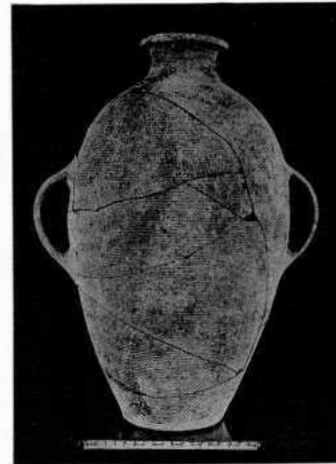
f. G 4140 A, Copper model tools.



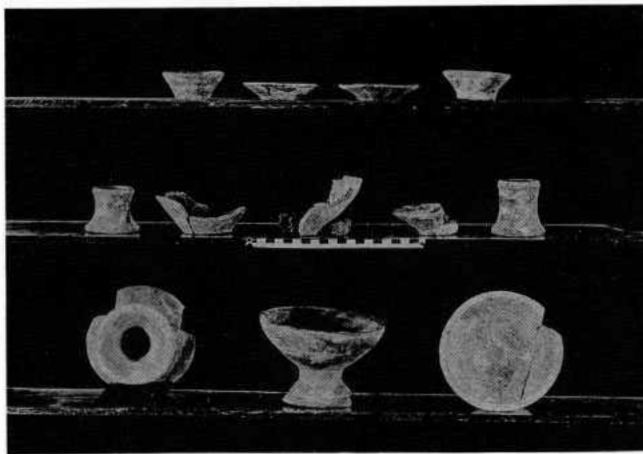
g. Flints from G 4240, 4440, and 4640.



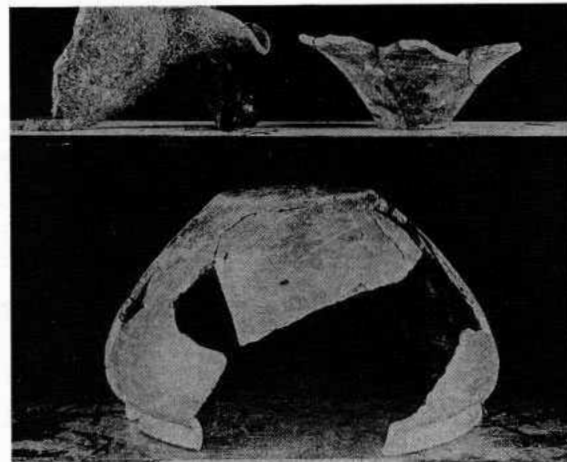
a. G 4340 A, Pottery.



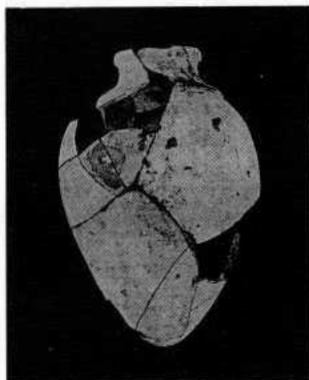
b. G 4440 A, Two-handled oil-jar (type B-LIV).



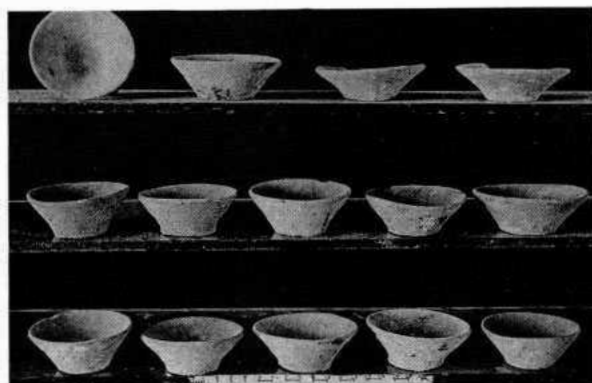
c. G 4340 A, Pottery.



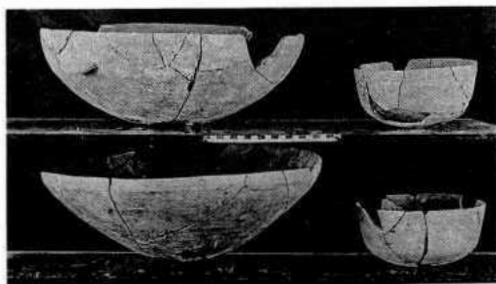
d. G 4240 A, Pottery.



e. G 4140 A, Wine-jar, type A-II b.



f. G 4540, Pottery, model basins.



g. G 4340 A, Pottery bowls of type C-LXI d, e, and f.



h. G 4440 A, Pottery, model jars.



a. G 4330, East face, looking SSW: 1914.



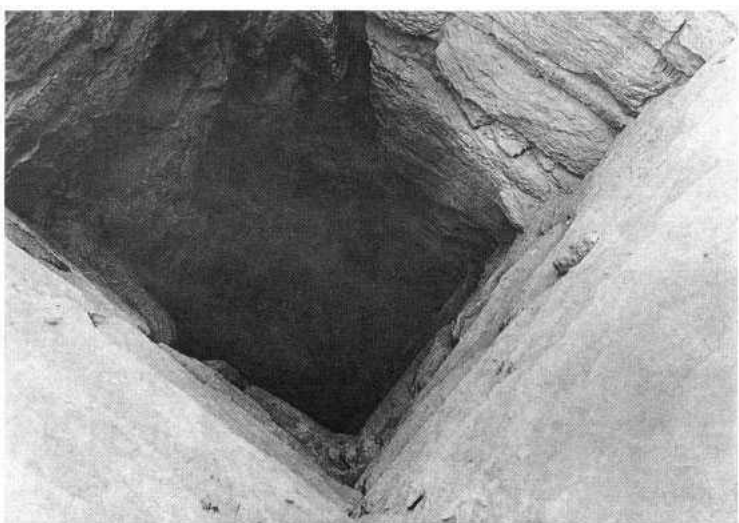
b. G 4330 A, Thieves' debris in chamber: 1913.



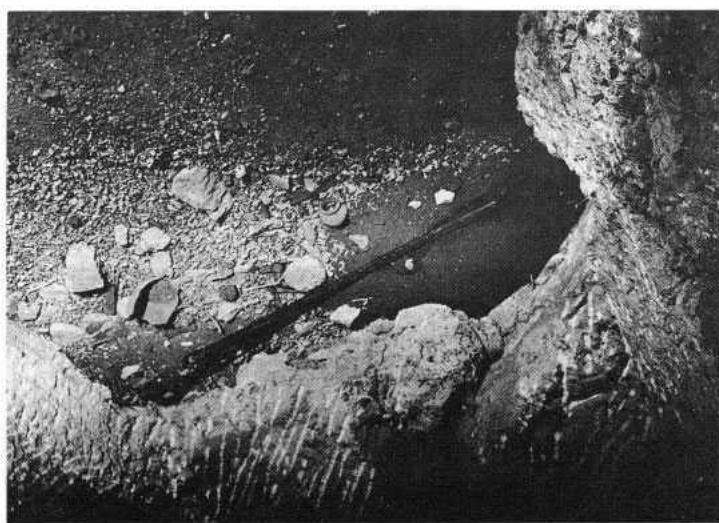
c. G 4430, Chapel, looking west: 1914.



d. G 4530, Chapel, looking north in street from point east of G 4520: 1914.



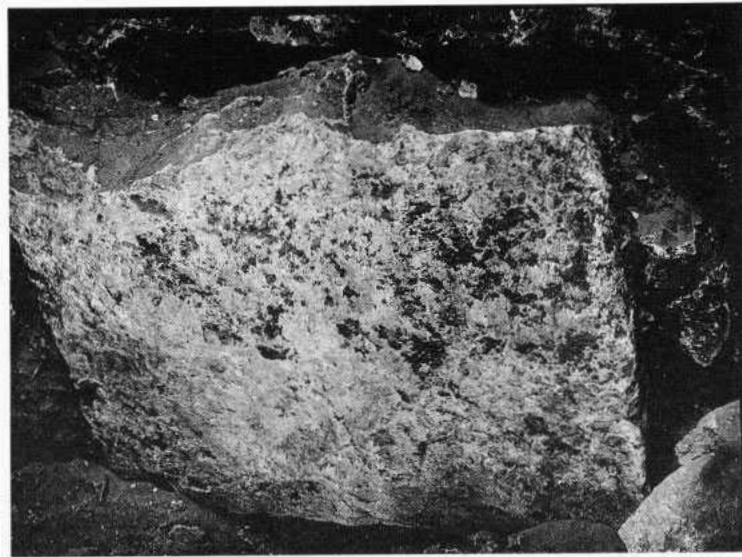
e. G 4530 A, looking down shaft: 1914.



f. G 4530 A, Burial-chamber, looking SW: 1914.



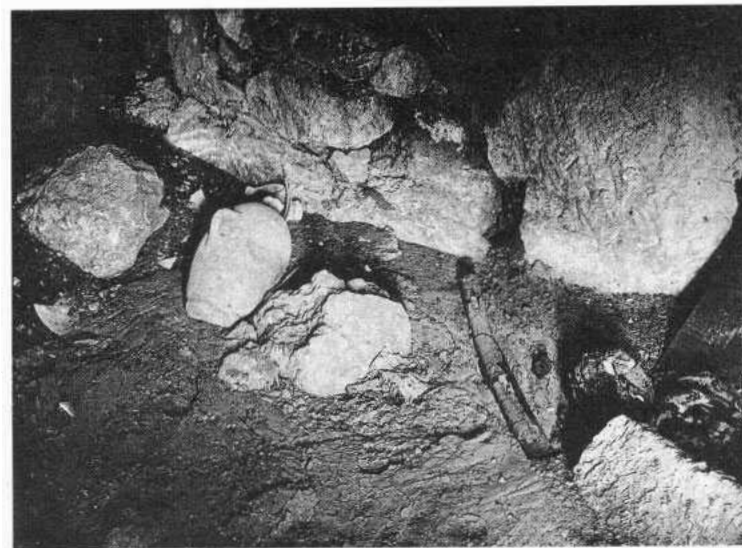
a. G 4630, Chapel, looking down to west: 1914.



b. G 4630 A, Portcullis slab, looking south: 1914.



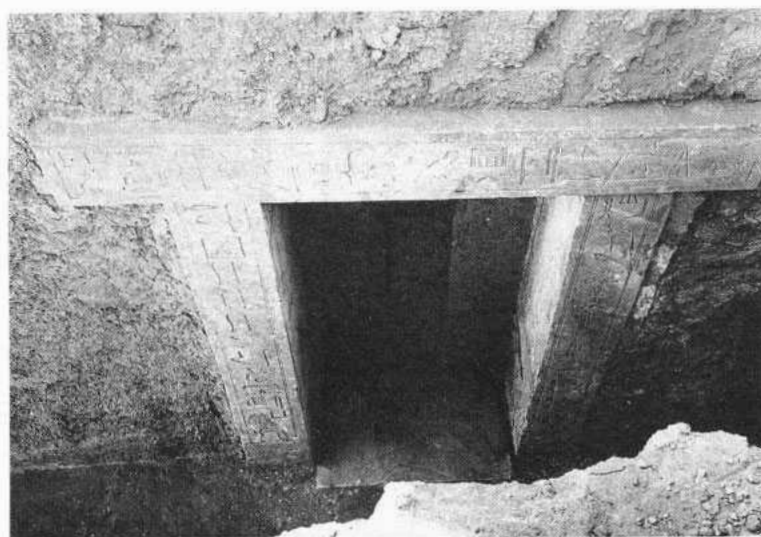
c. G 4630 A, Blocking, looking south: 1914.



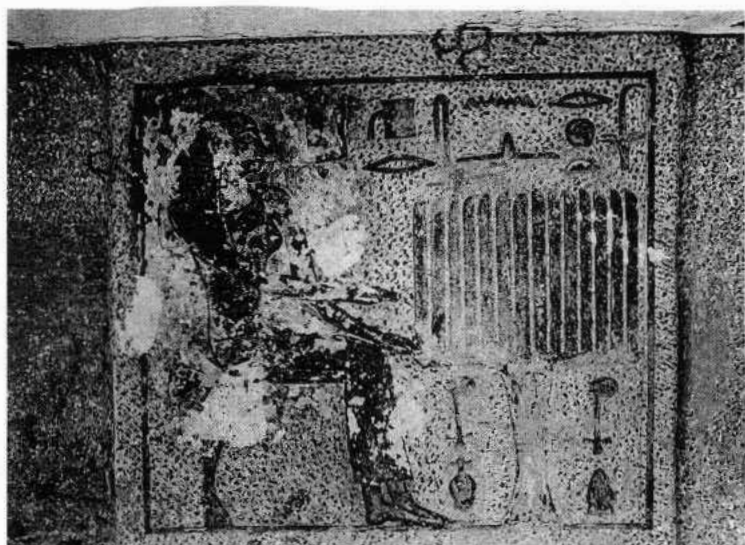
d. G 4630 A, Floor debris in chamber, looking NW: 1914.



e. G 4630 and G 4631, Looking NNW: 1914.



f. G 4631, Ka-door, looking down to west: 1914.



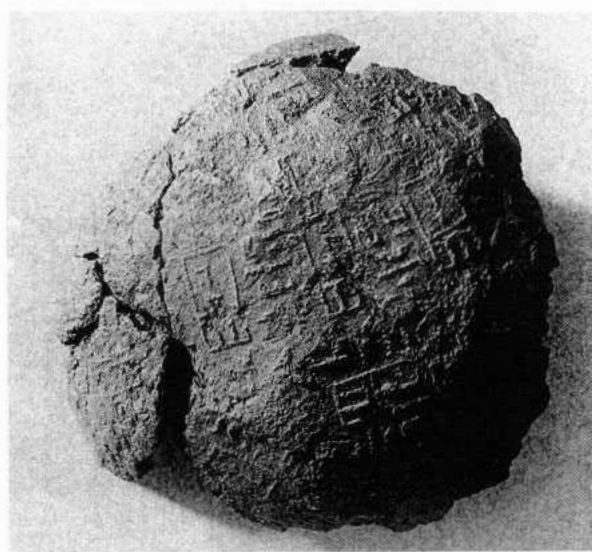
a. G 4631, Tablet of *ka*-door: 1914.



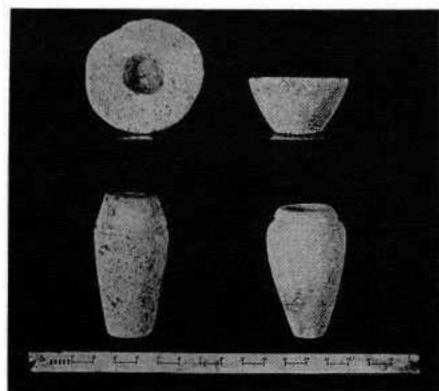
b. G 4730, Street on east, looking south: 1914.



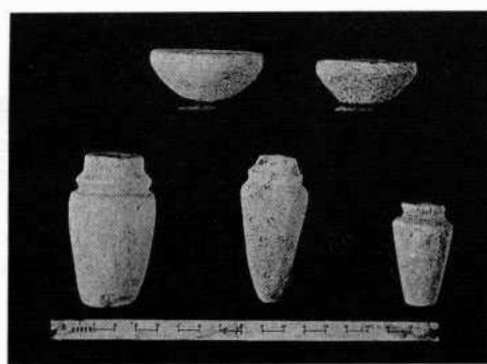
c. G 4830, Street on east, looking north: 1914.



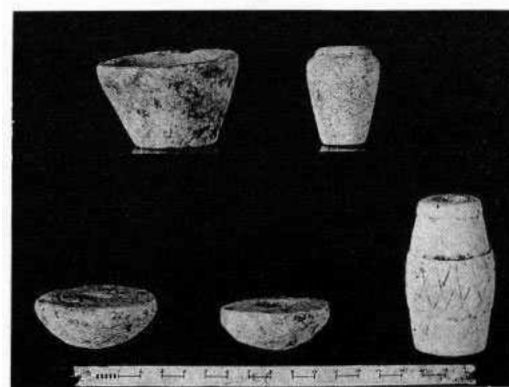
d. G 4430 A, Mud sealing of Chephren.



e. G 4530 A, Limestone models.



f. G 4530 A, Limestone models.



g. G 4530 A, Limestone models.



a. G 4530 A, Limestone model vessels.



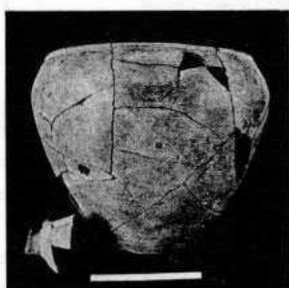
b. G 4530 A, Pottery models, basins and jars.



c. G 4630 A, Wine-jar of type A-II b.



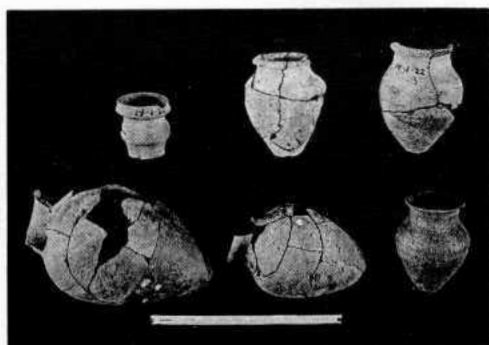
d. G 4630 A, Two-handled oil-jar of type B-LIV.



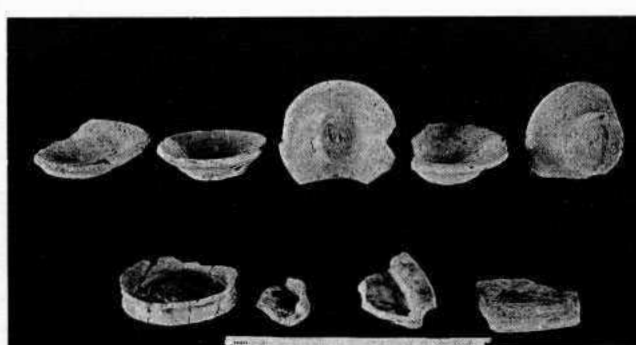
e. G 4630, Basin with short tubular spout, type D-XXXV a.



f. G 4630 A, Dish of type D-LXXV.



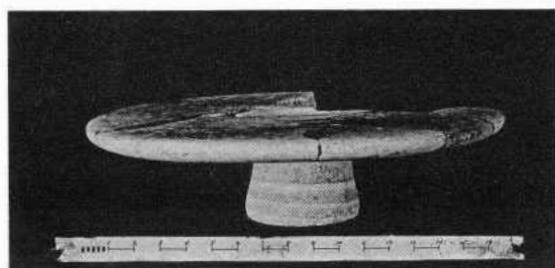
g. G 4630 A, Pottery and models.



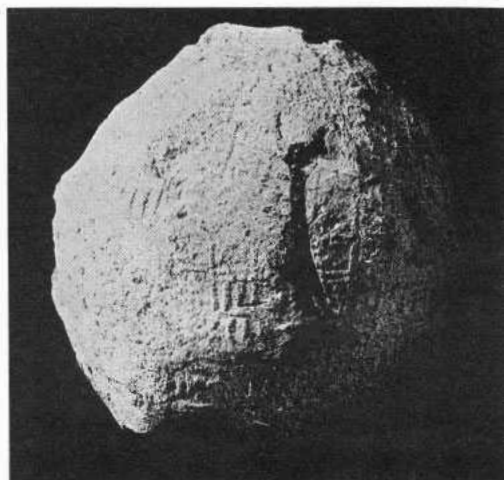
h. G 4630 A, Model basins.



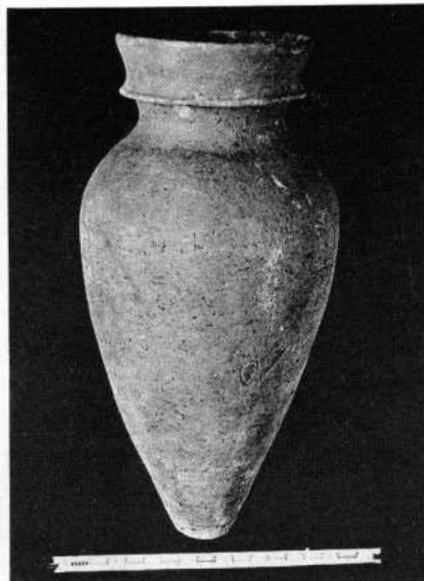
a. G 4631 B, Alabaster models



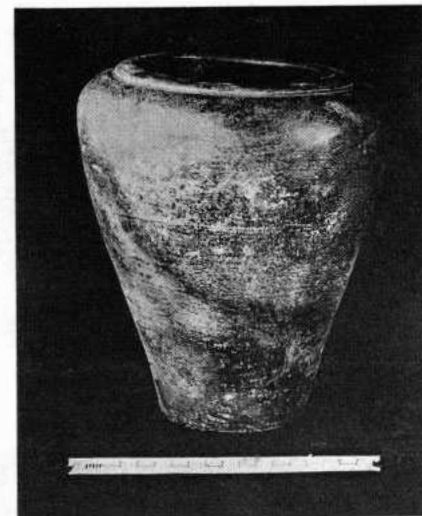
d. G 4631 B, Alabaster table, type S XII b.



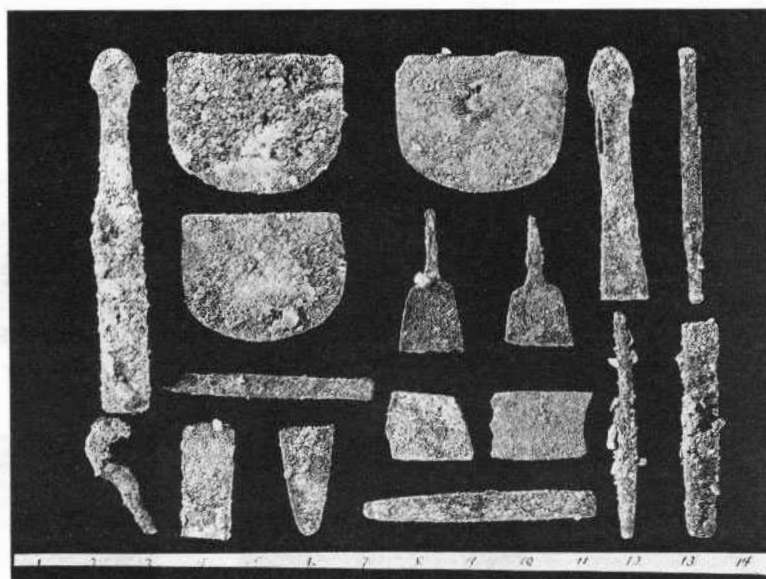
e. G 4631 B, Mud sealing of Weserkaf.



b. G 4631 B, Jar of type B-LVI a.



c. G 4631 B, Neckless shoulder jar, RP, type B-LV.



f. G 4631 B, Copper model tools.



g. G 4320, East face with two niches, looking west: 1937.



h. G 4420, Table scene inscribed at south end of east face: 1915.



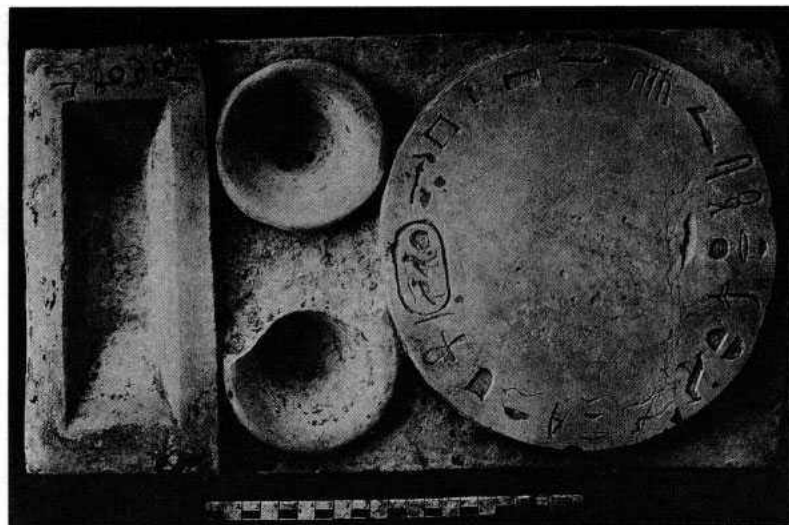
a. G 4520, Chapel, looking west: 1914.



b. G 4520, Monolithic stela of Khufuw-ankh:
1914.



a. G 4520, East face of mastaba and chapel, looking SW: 1914.



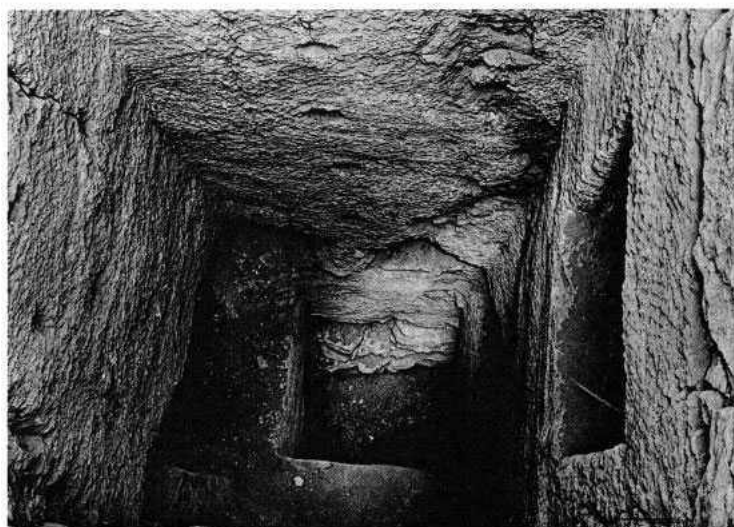
b. G 4520, Offering-stone in front of great stela: 1915.



c. G 4520, Serdab between the two niches, looking west: 1914.



d. G 4520, Stela in west wall of vestibule, looking west: 1914.



e. G 4520, Looking down shaft to west: 1914.



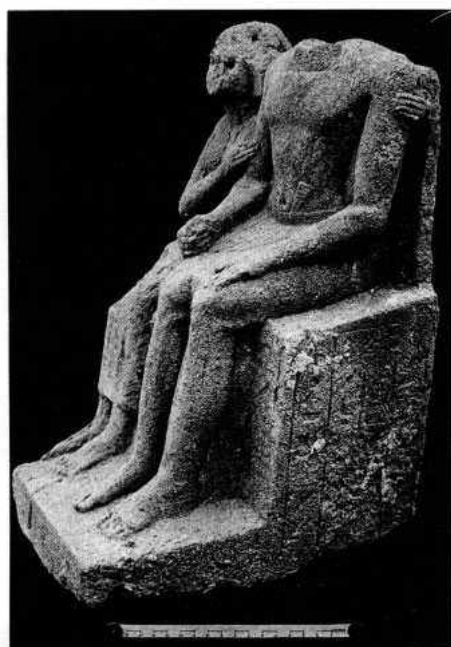
f. G 4520 A, Objects in NE corner of chamber: 1914.



a. G 4520 A, Wooden coffin in chamber, looking NW: 1914.



b. G 4520 A, Burial in coffin, looking north.



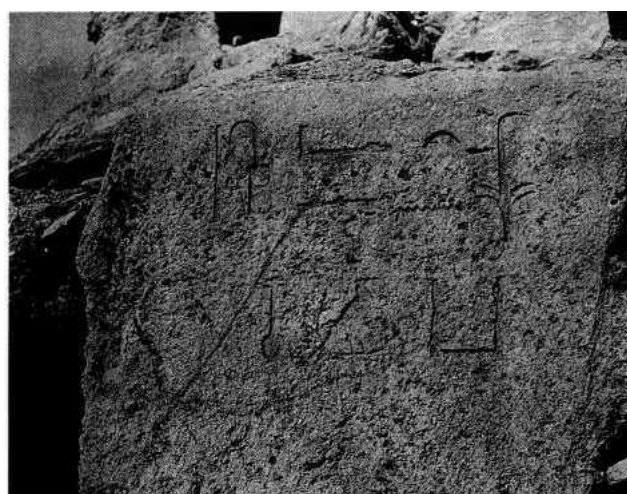
c. G 4520, Reg. No. 14-3-4, Pair statuette of Khufu-ankh and wife, made by son, found NE of mastaba in debris.



d. G 4520, Reg. No. 14-3-16, Pair statuette of Kap and wife, found NE of mastaba in debris.



e. Male torso and female head found in debris east of G 4522.



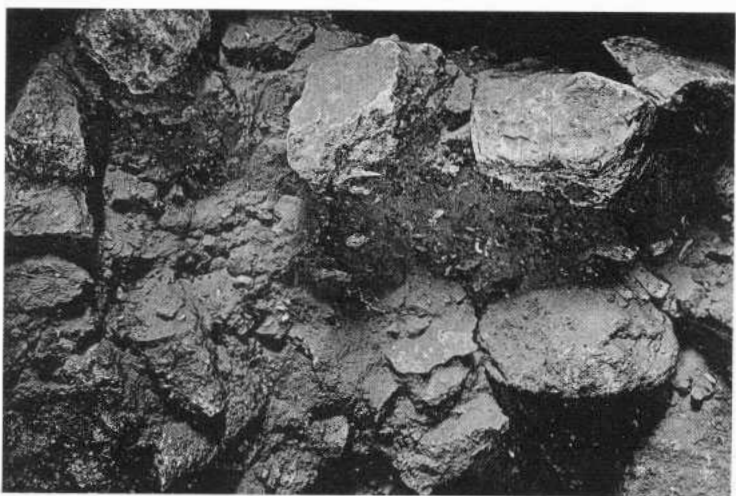
f. G 4620, Inscription of Kanof on east face of SE corner of core of mastaba.



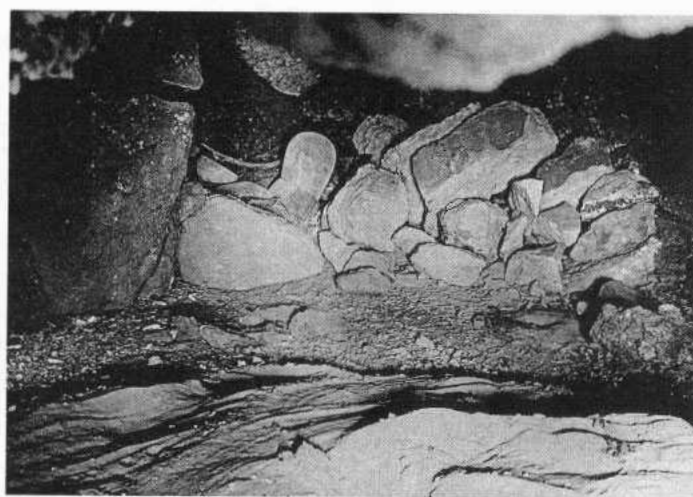
a. G 4620 A, Blocking of type II c (2) penetrated by thieves, looking south: 1914.



b. G 4620 A, Thieves' debris in chamber, looking down to south: 1914.



c. G 4720 A, Blocking of type III c (1): 1914.



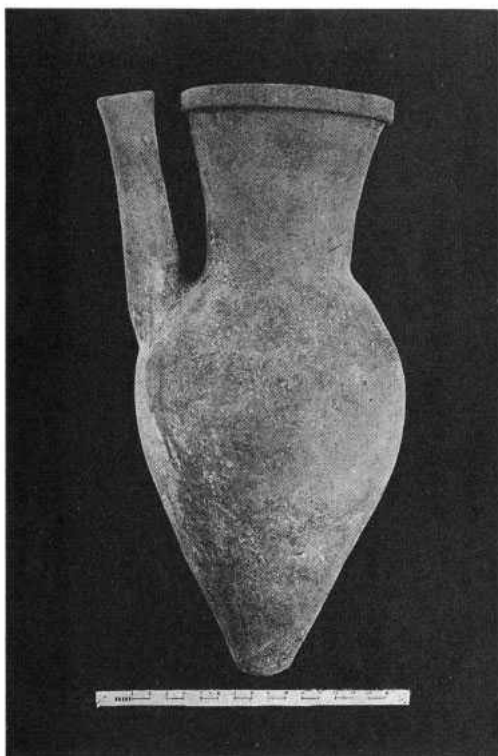
d. G 4720 A, Thieves' debris in chamber: 1914.



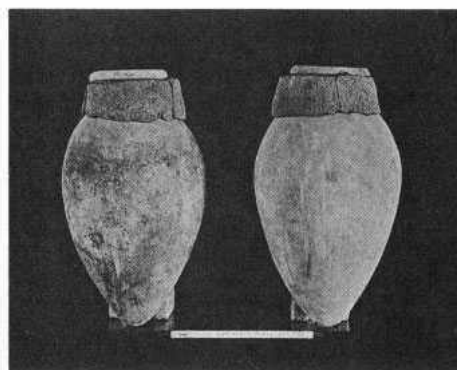
e. G 4820, Chapel, looking down to NW: 1915.



f. G 4520 A (3), Alabaster model vessels: 1914.



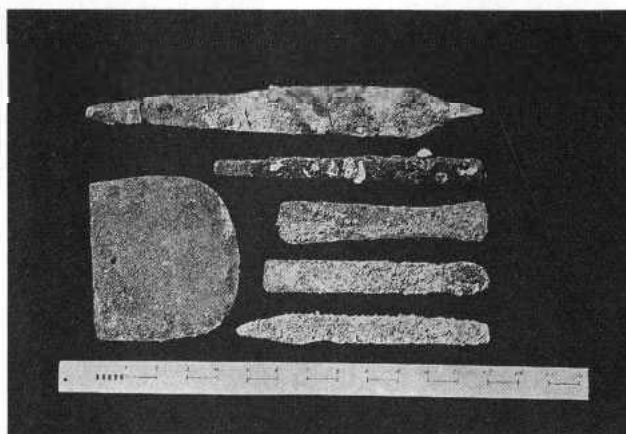
a. G 4520 A, Jar of type B-LIX b: 1914.



b. G 4520 A, Two jars of type A-II b: 1914.



c. G 4520 A, Pottery model vessels: 1914.



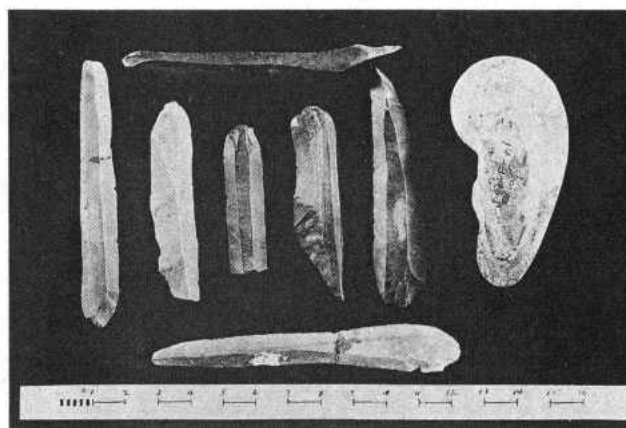
e. G 4520 A, Copper model tools: 1914.



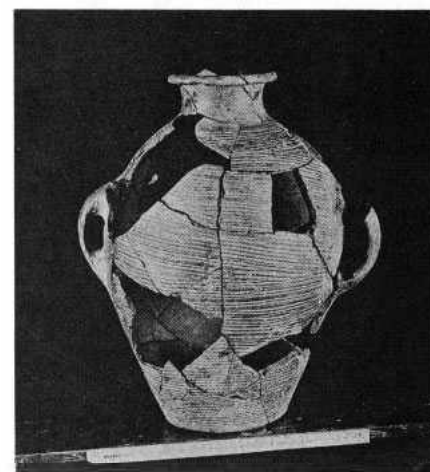
g. G 4620, Pottery type D-XXXIX b and A-LI b: 1914.



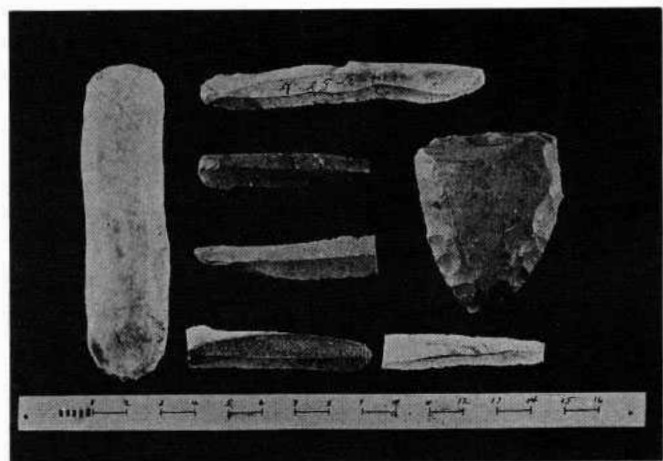
d. G 4520 A, Alabaster head-rest: 1914.



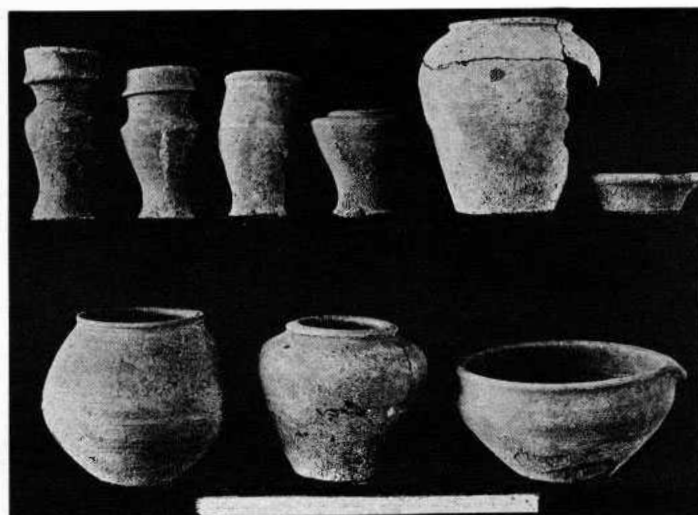
f. G 4620 A, Flint flakes and limestone ear: 1914.



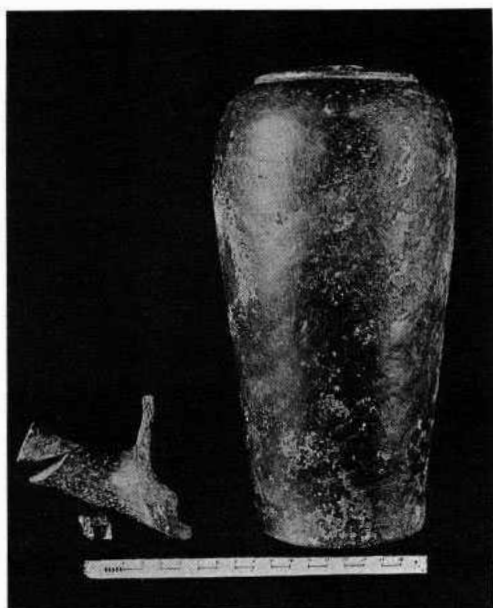
h. G 4620 A, Two-handled oil-jar, type B LIV: 1914.



a. Flint flakes from G 4620 and 4720: 1914.



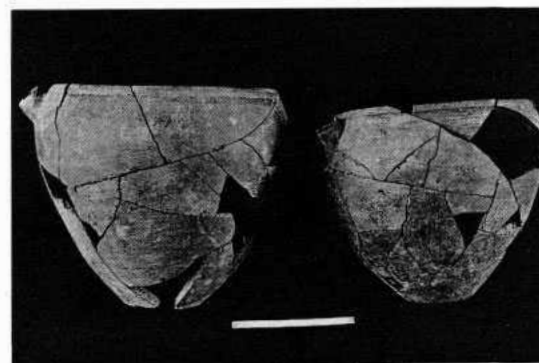
b. G 4720, Pottery model vessels: 1914.



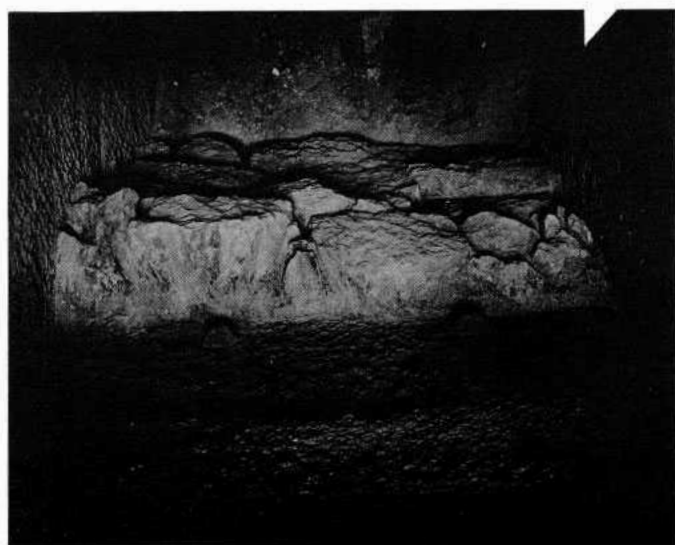
c. G 4720, Neckless shoulder jar, type B-LV b (RP): 1914.



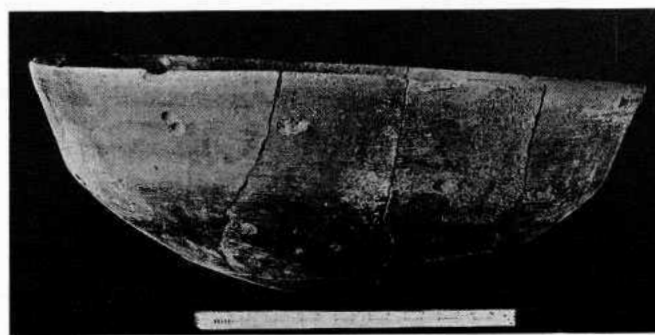
d. G 4720 A, Basin, type D-XXXVI a: 1914.



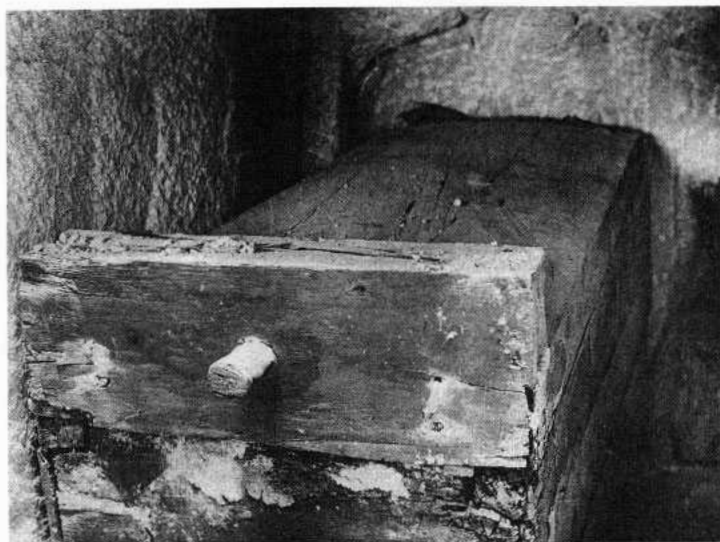
e. G 4720 A, Two basins, type D-XXXV a: 1914.



g. G 4310 A, Blocking of type IV b (r): 1915.



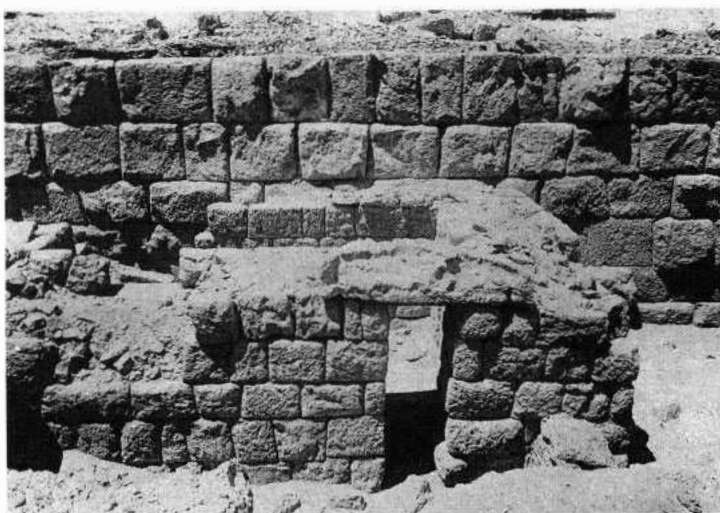
f. G 4720 A, Bent-sided bowl, type D-LXXVI b: 1914.



a. G 4310 A, Lower chamber, coffin, looking south: 1915.



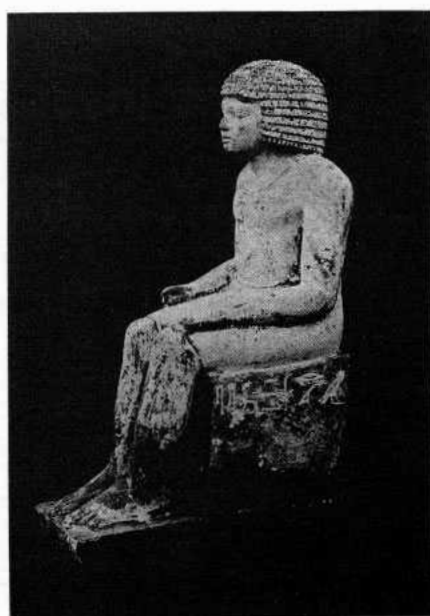
b. G 4410, Street on east, looking north: 1914-15.



c. G 4410, Chapel of type (8 e), looking west: 1937.



d. G 4410, Offering-room with intruded statuettes, looking west: 1915.



e. G 4410, Statuette of *hm-k* Ne-shepses-nesuwt: 1915-16.



f. G 4410, Statuette of Isesy-ankh: 1915-16.



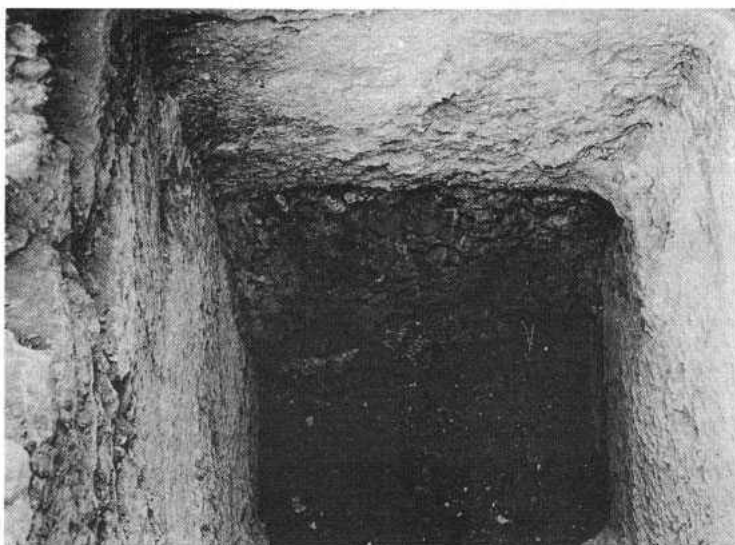
a. G 4411, East face, looking NW: 1915.



b. Street between G 4510 and 4610, looking south: 1915.



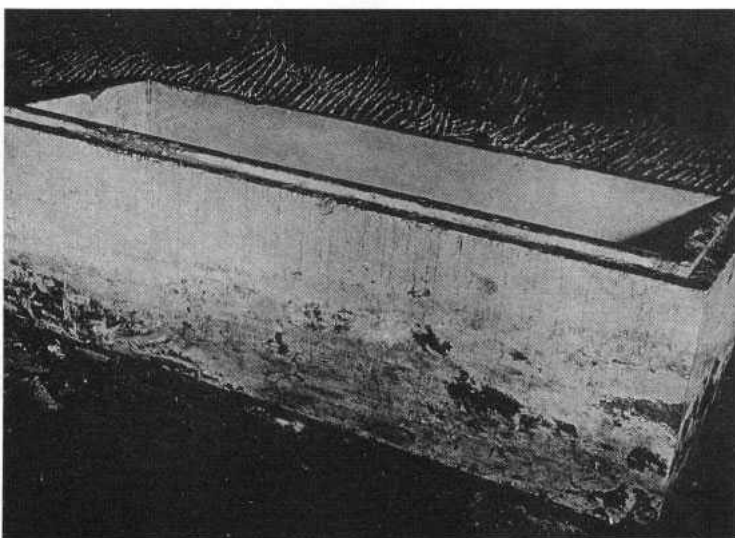
c. Street east of G 4610, looking north: 1915.



d. G 4610 A, Blocking of type II b (1): 1915.



e. G 4610 A, Thieves' debris in chamber: 1915.



f. G 4710 A, Coffin in chamber, looking SW: 1914.



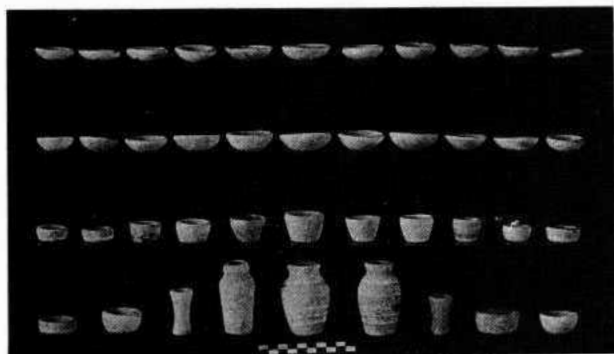
a. G 4710 A, Disturbed skeleton in coffin: 1914.



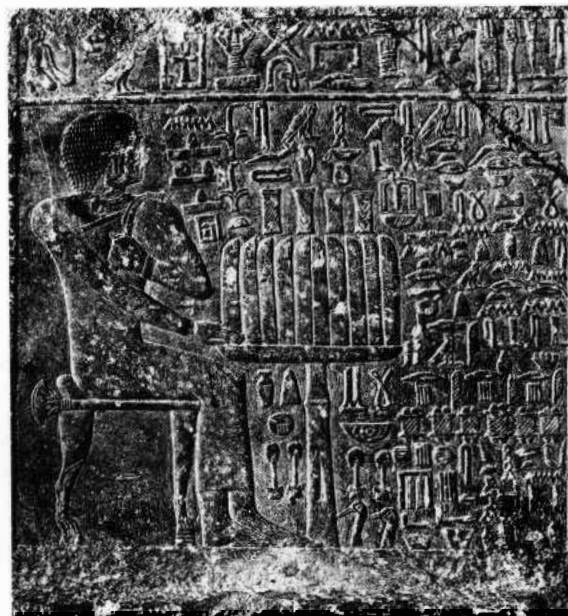
b. G 4710 A, Built canopic pit in chamber, looking SE: 1914.



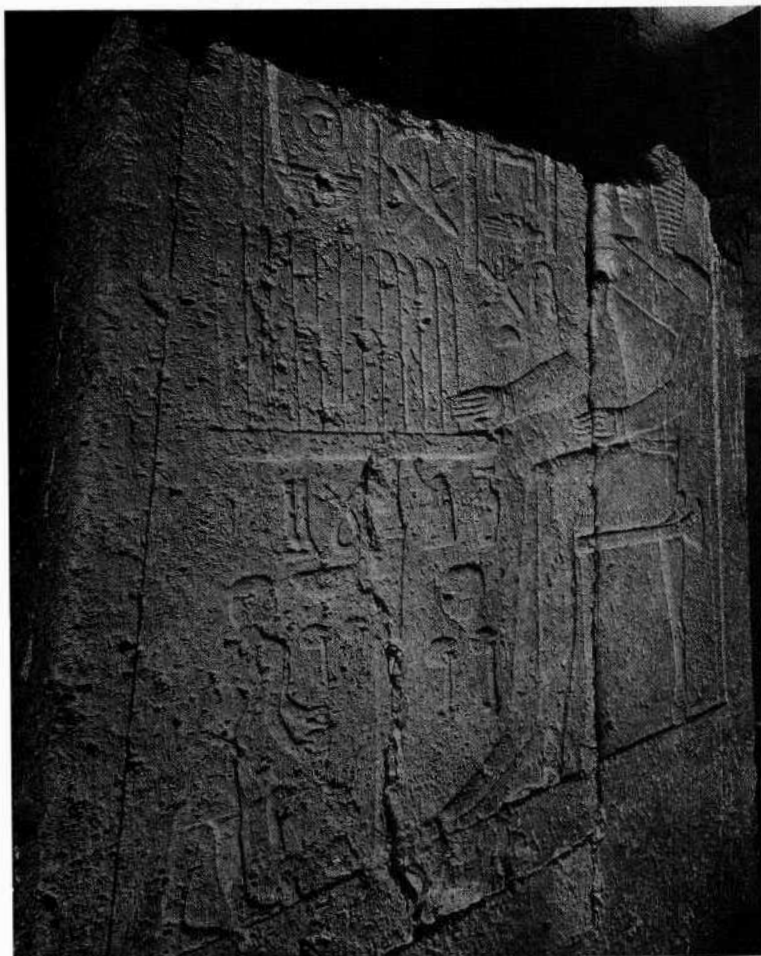
c. G 4710 and area east of it, looking north: 1915.



a. G 4610 A, Alabaster model vessels.



b. G 4710, Tablet of Sethu from *ka*-door; from the collection of the New York Historical Society in the Brooklyn Museum.



c. G 4710, South jamb of entrance to interior chapel.



d. G 4710, North jamb of entrance to interior chapel.

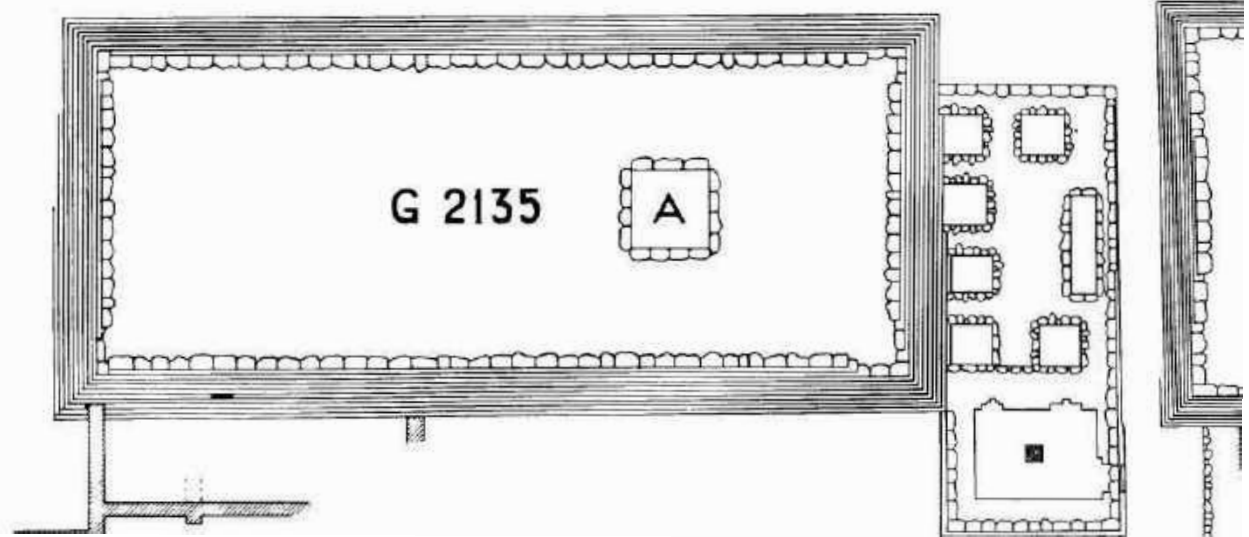
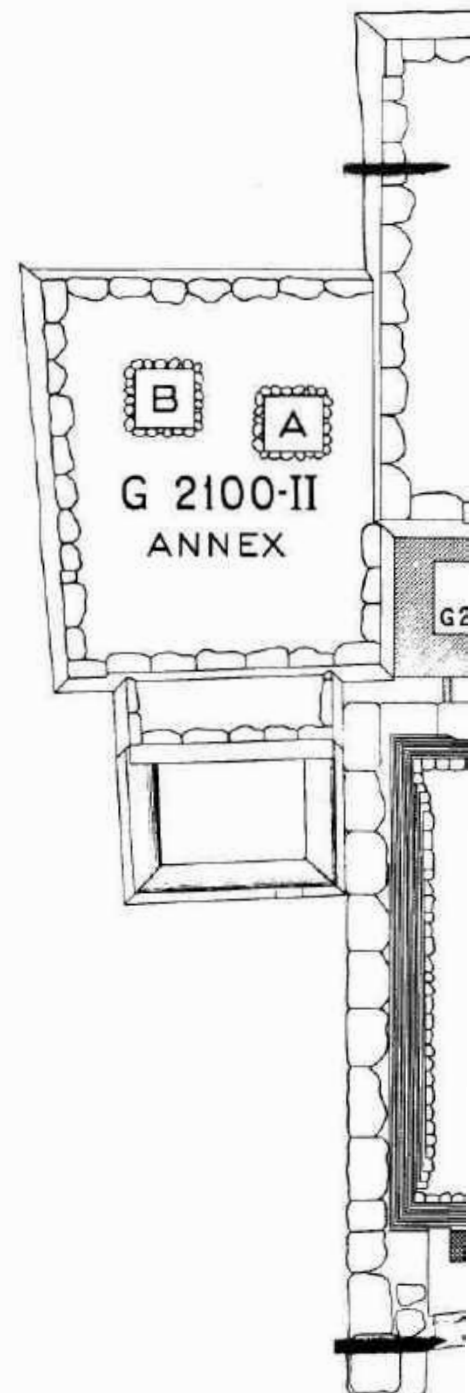
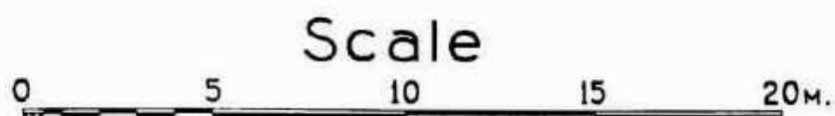


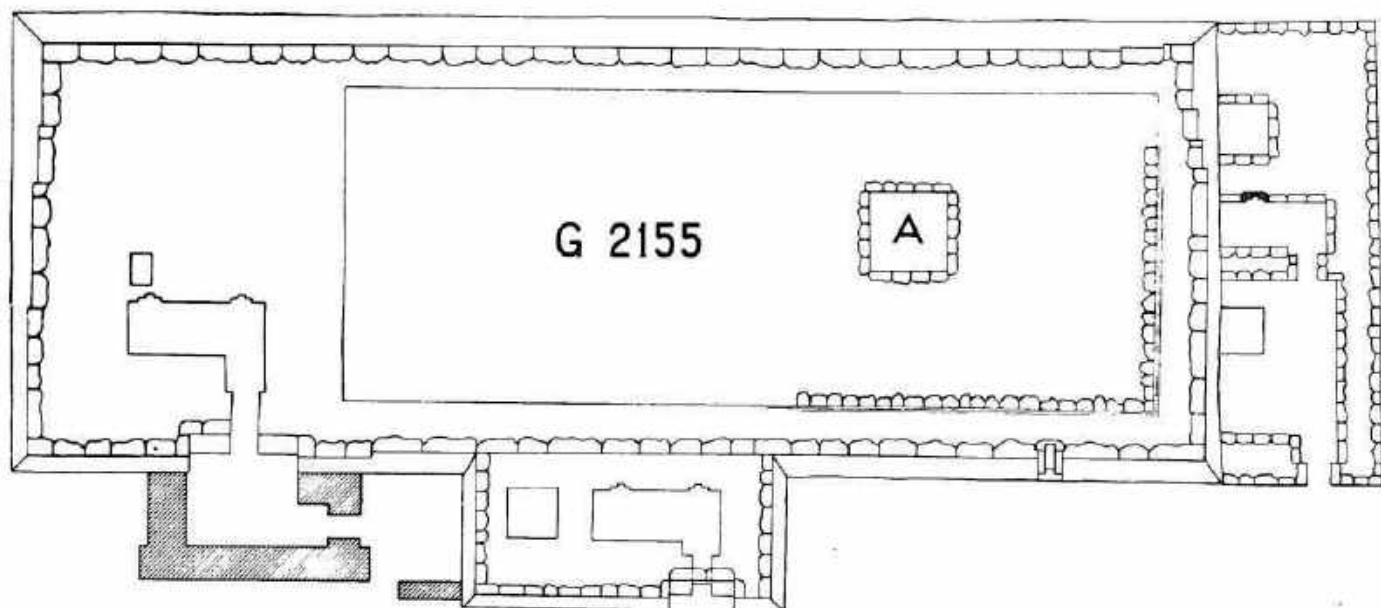
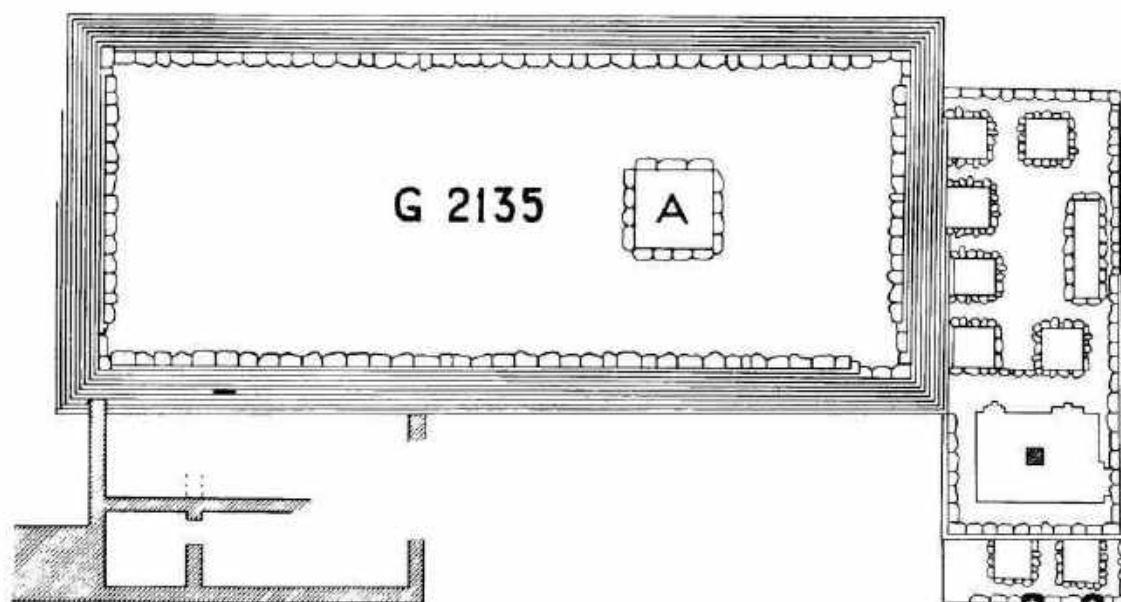
a. G 4710, Chapel, reliefs on west wall.

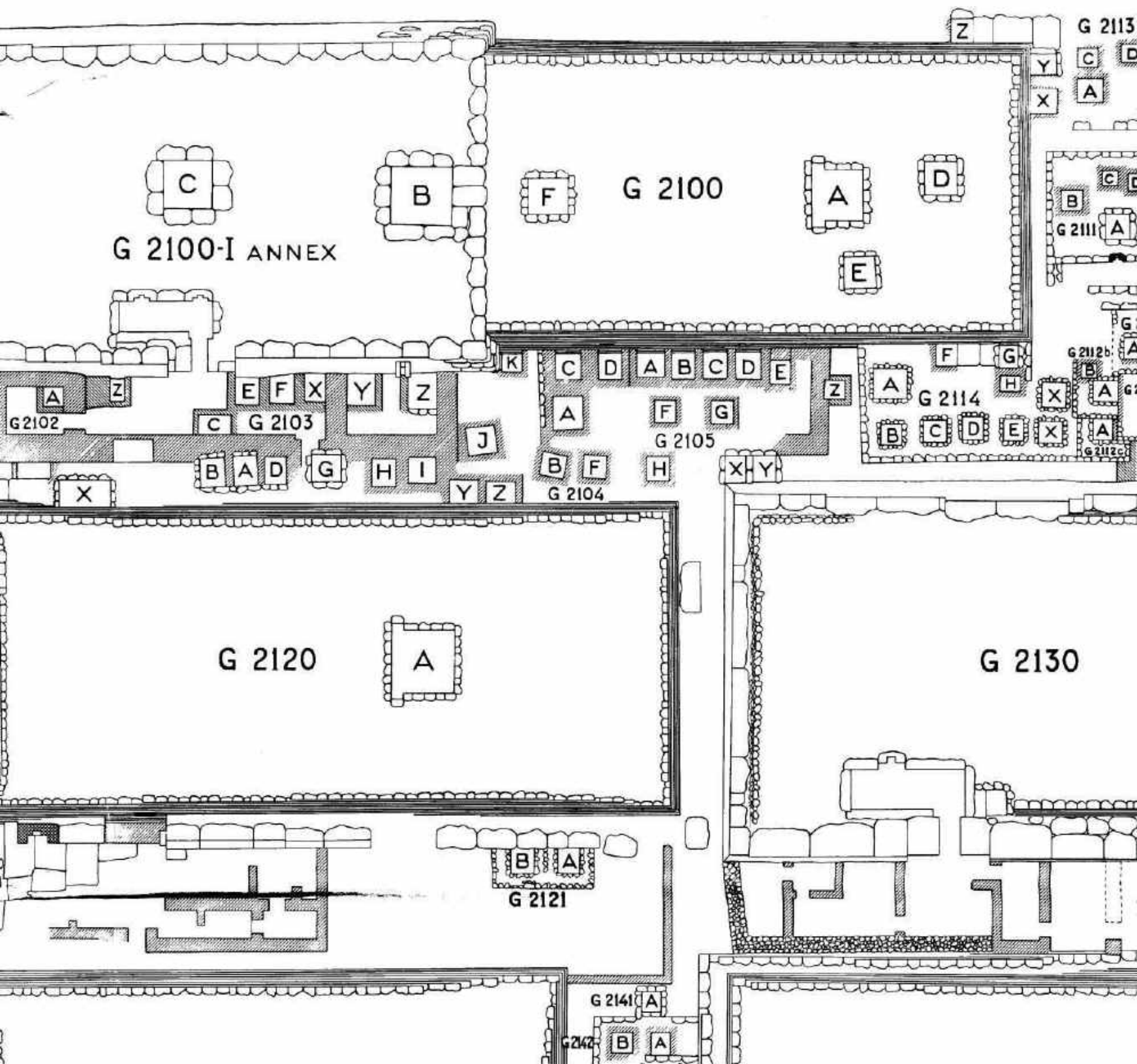


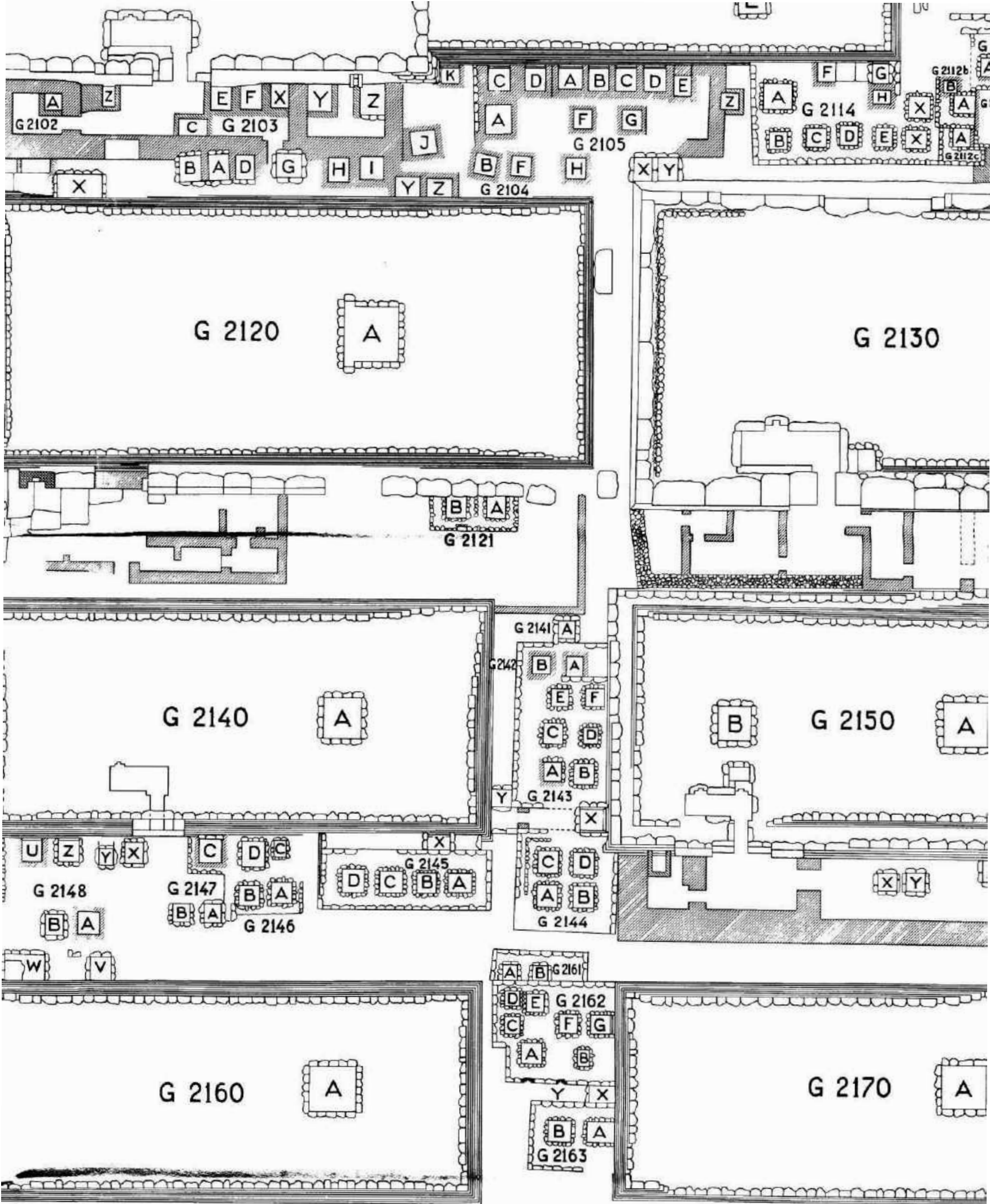
b. G 4710, Large figure of owner on west wall.

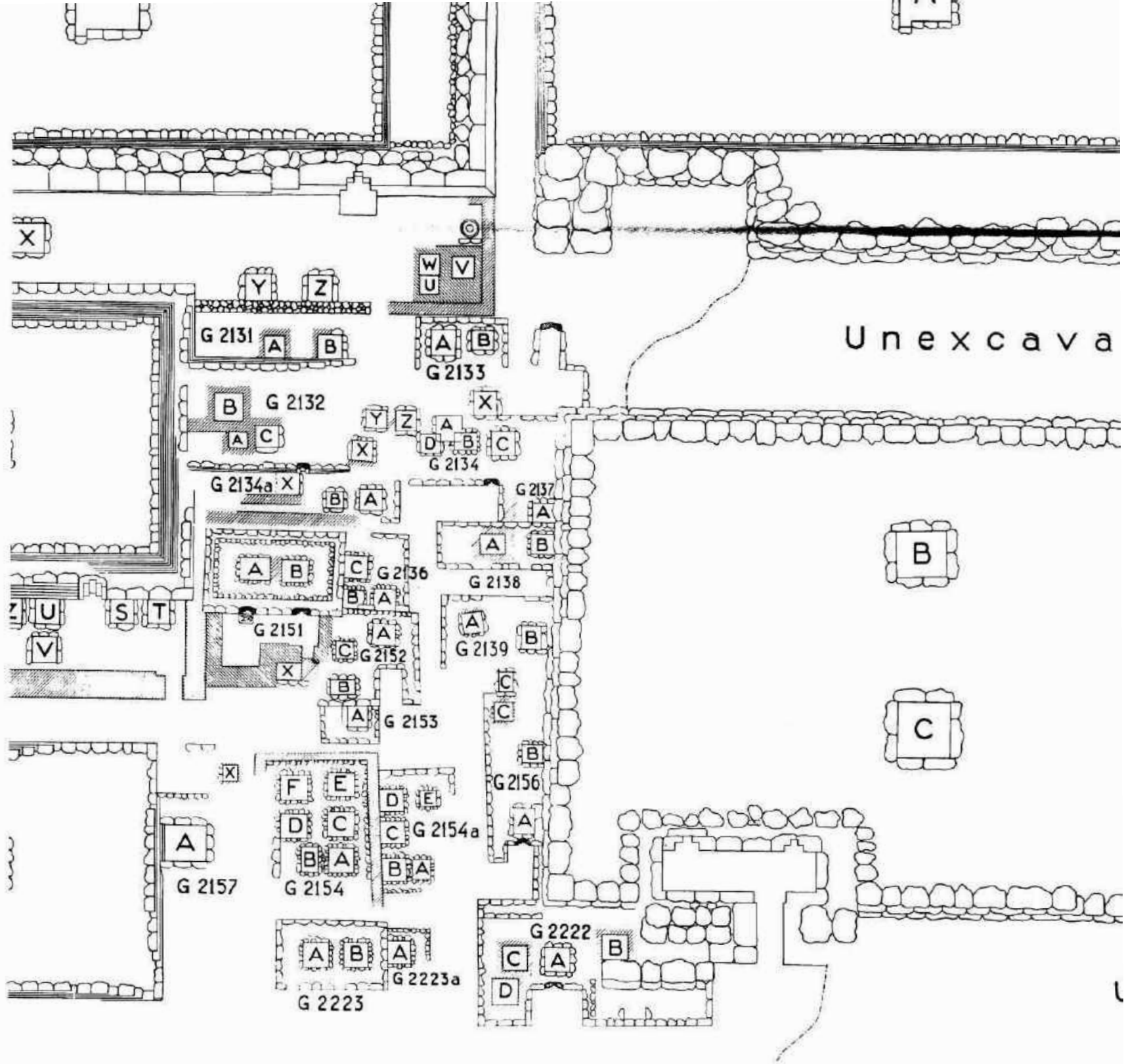
MAP OF CEMETERY G 2100

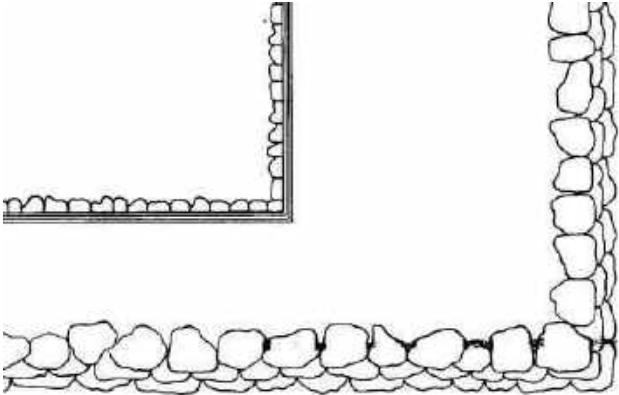












Excavated

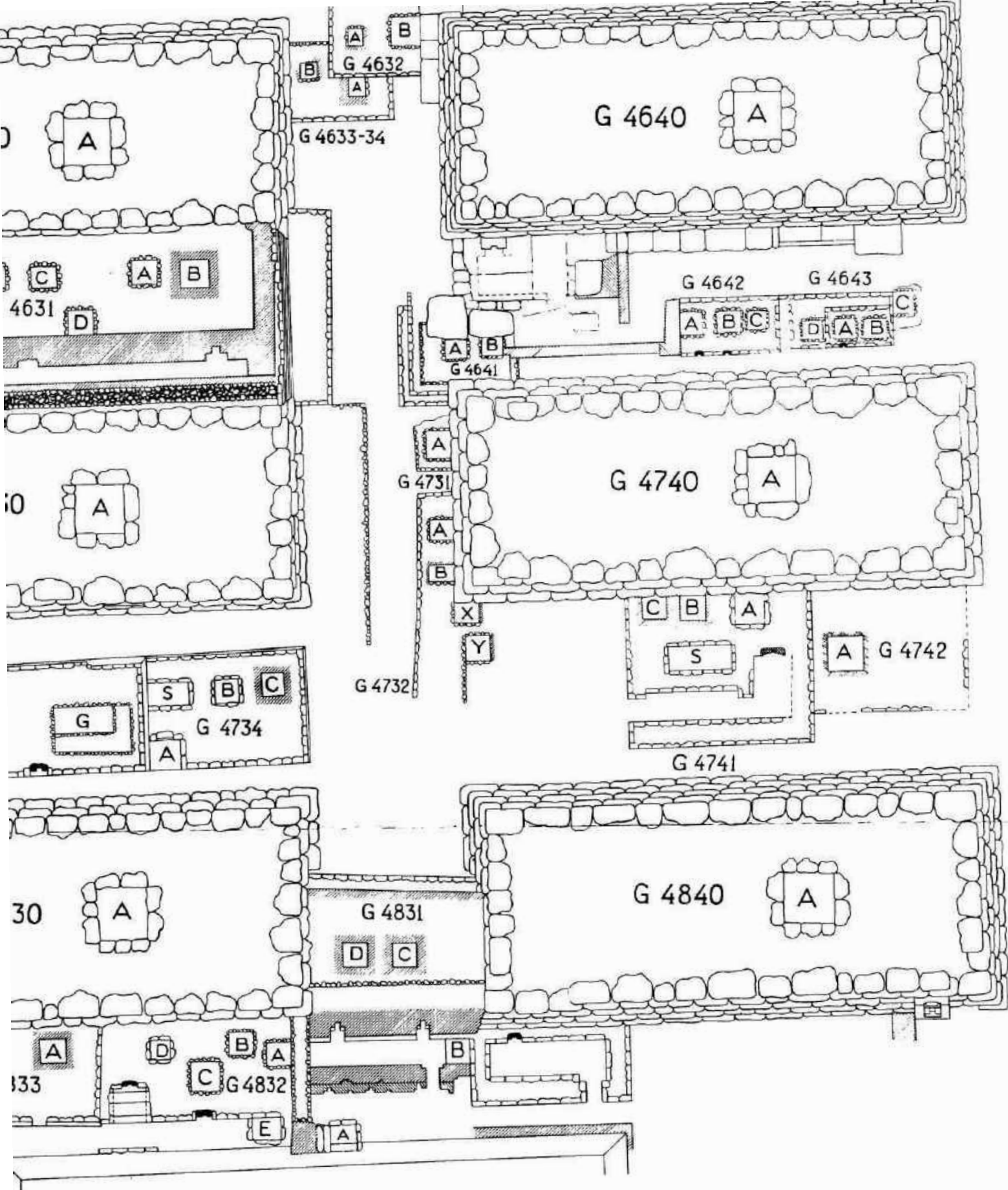


G 2220



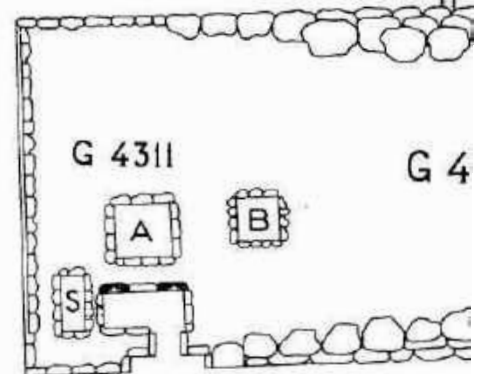
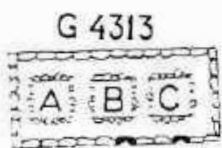
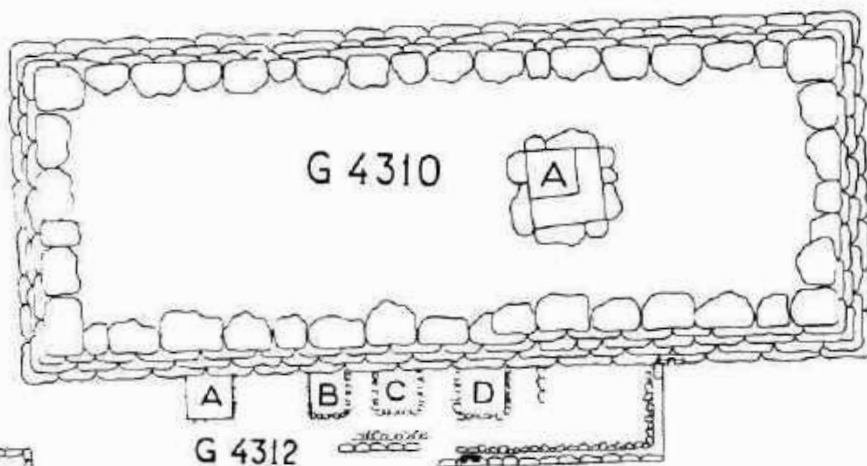
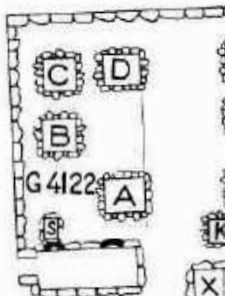
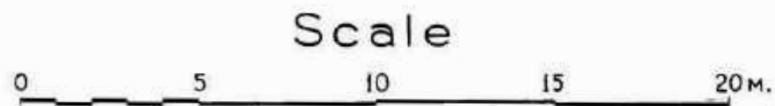
Unexcavated

Surveyed and drawn by A. Floroff
Traced by N. Melnikoff



Surveyed and drawn by A. Floroff
Traced by N. Melnikoff

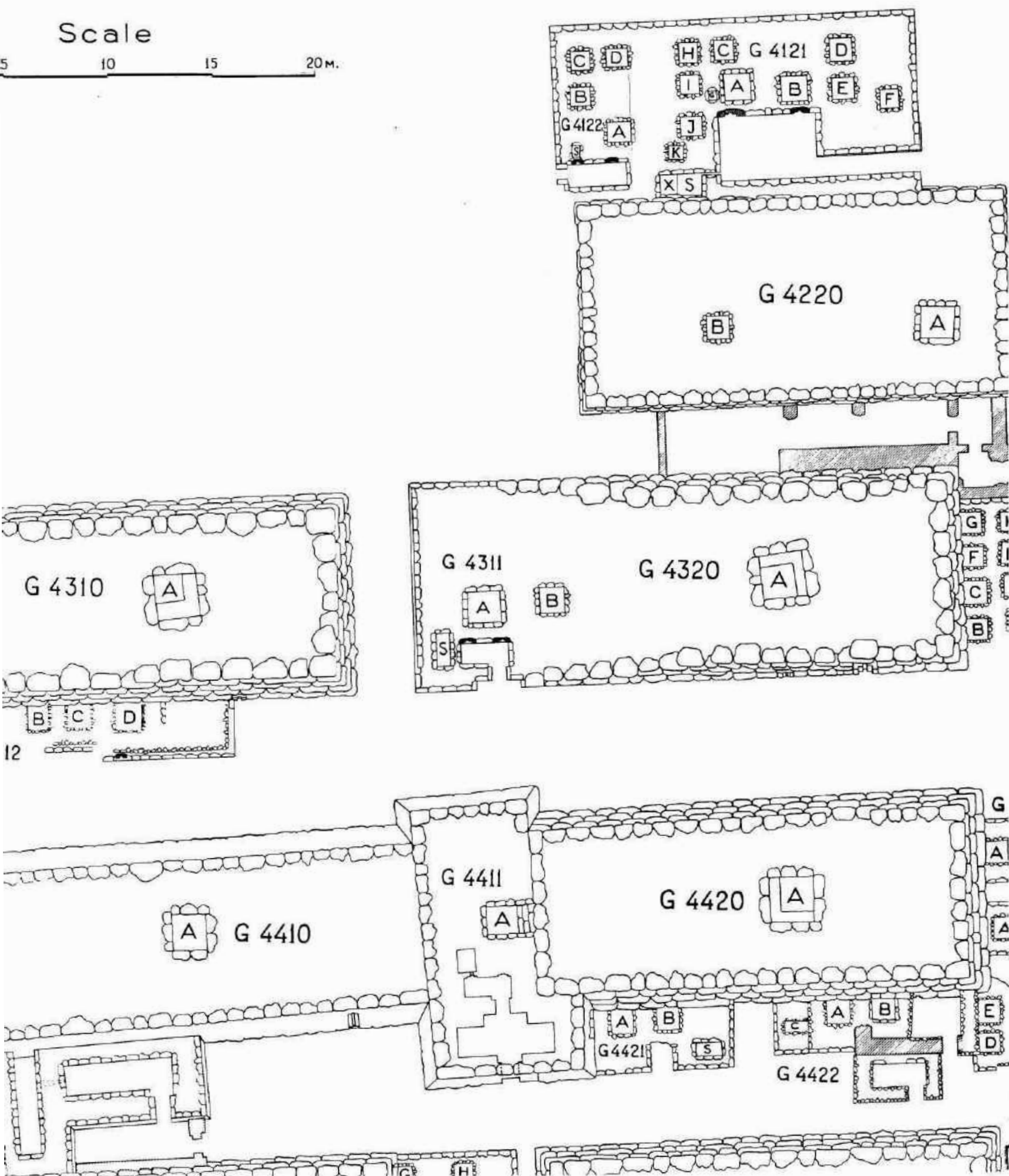
MAP OF CEMETERY G 4000



ETERY G 4000

Scale

5 10 15 20 M.



G 4519

G 4510

G 4511

G 4518

G 4513

G 4517

G 4512

G 4516

G 4515

G 4514

G 4525

G 4615

G 4614

G 4610

G 4616

G 4624

G 4611

G 4612

G 4613

G 4712a

G 4710

G 4712

G 4711

G 4714

G 4713

G 4811

G 4812

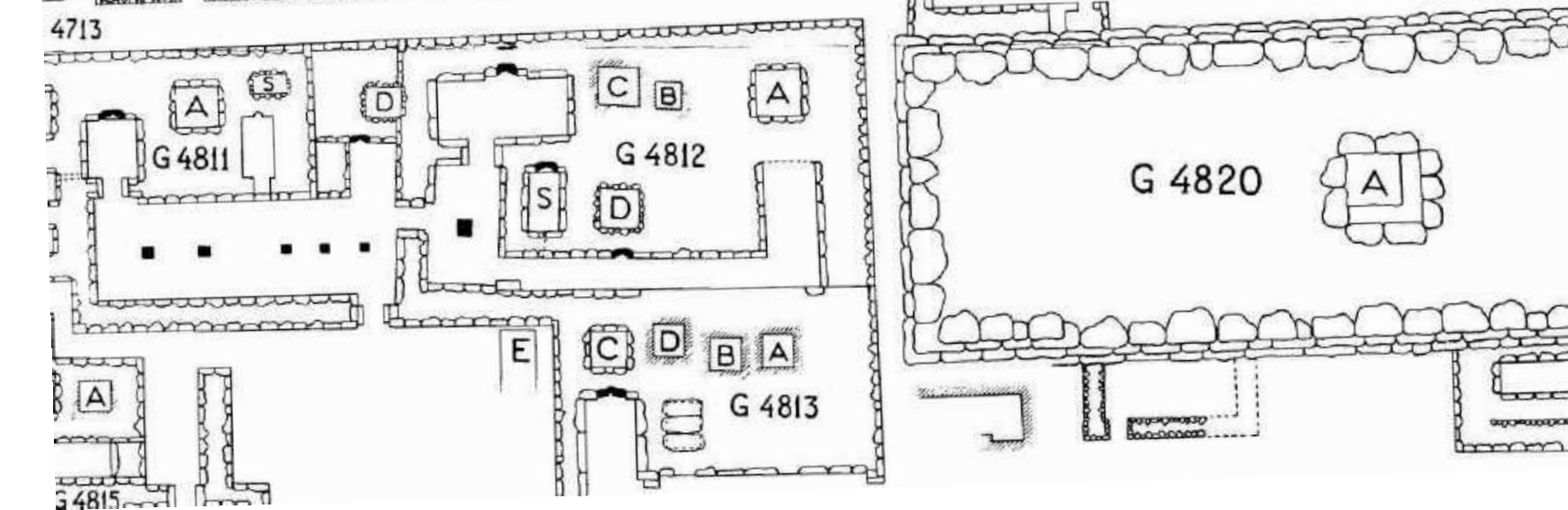
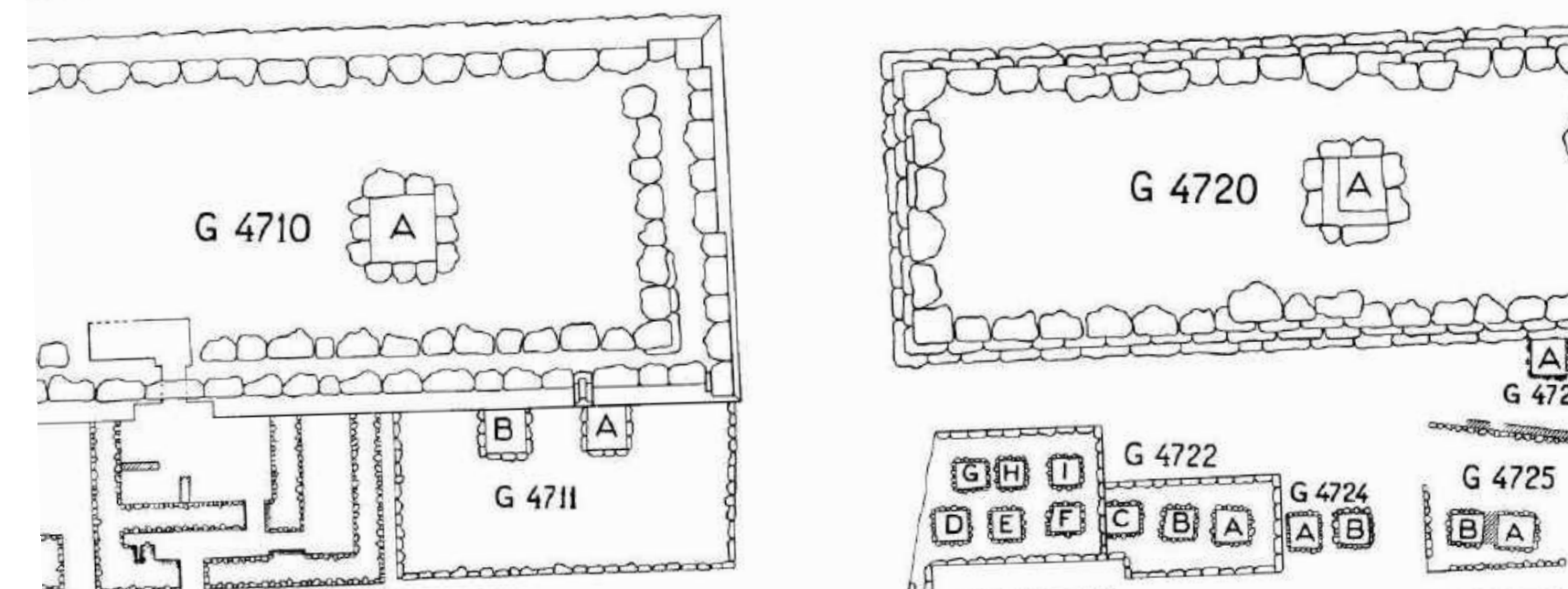
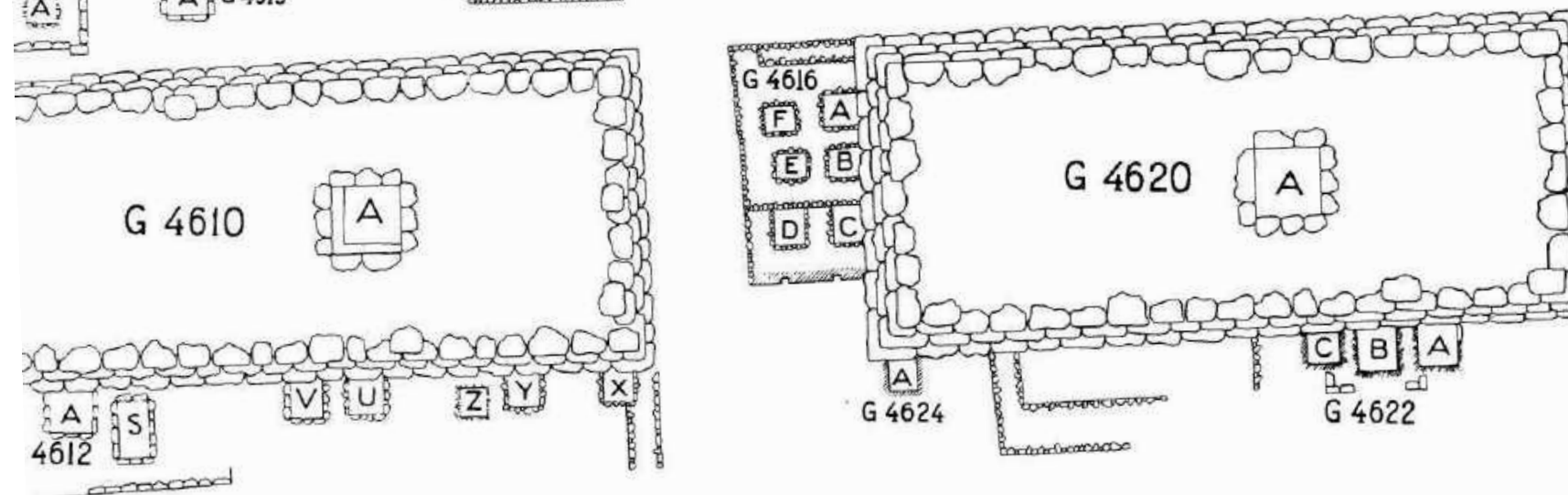
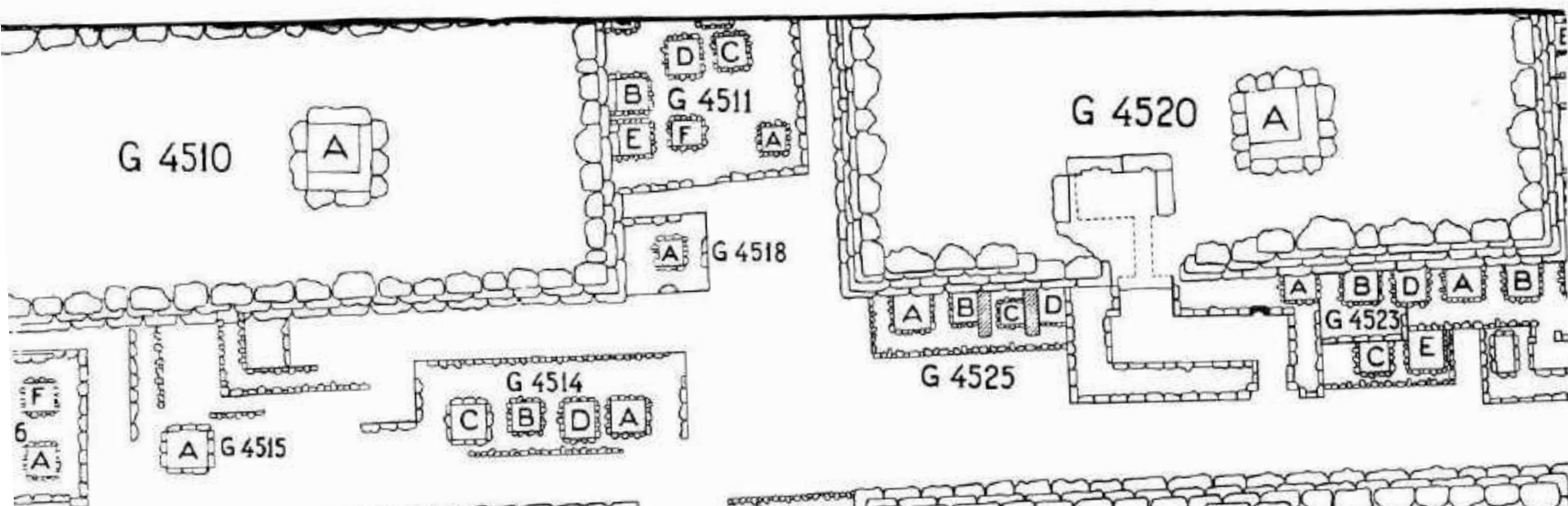
G 4817

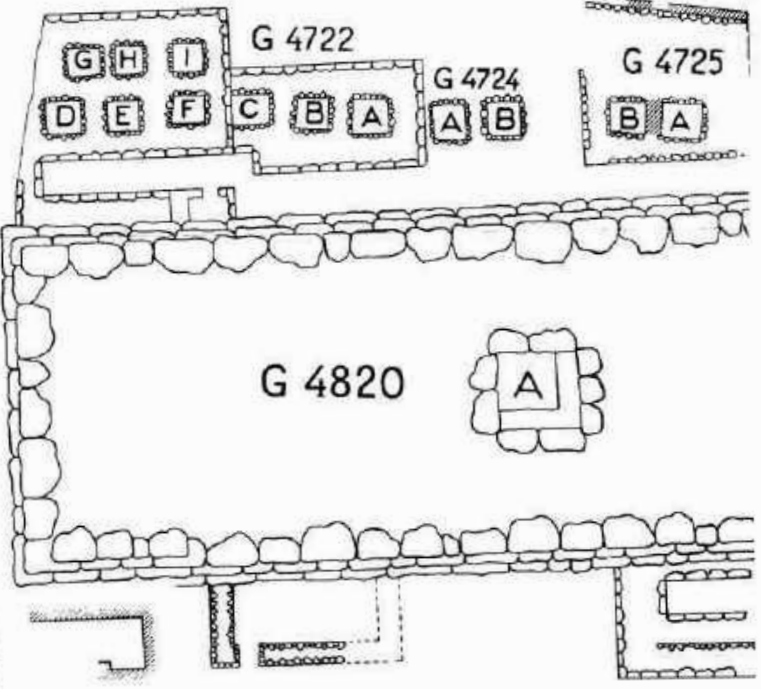
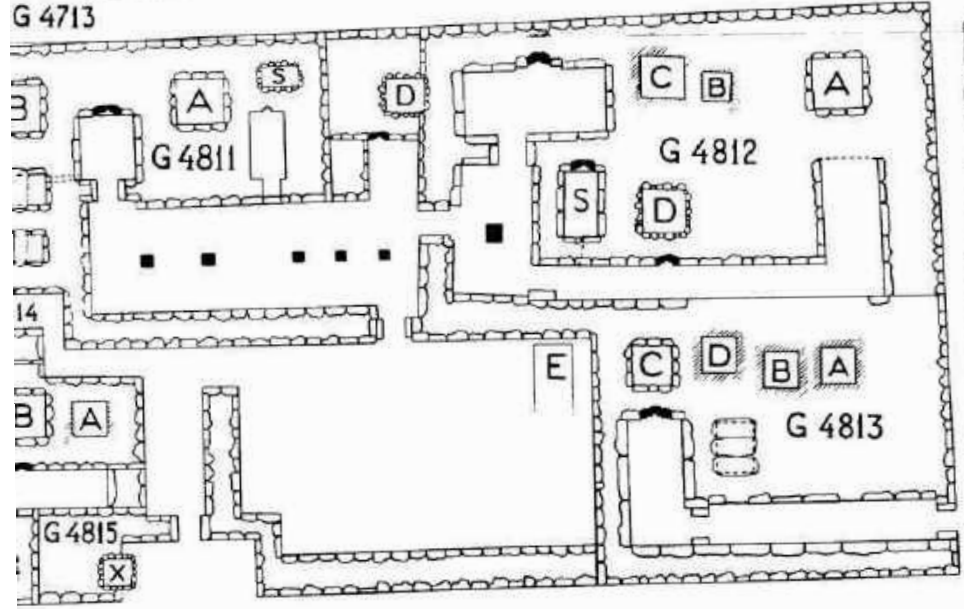
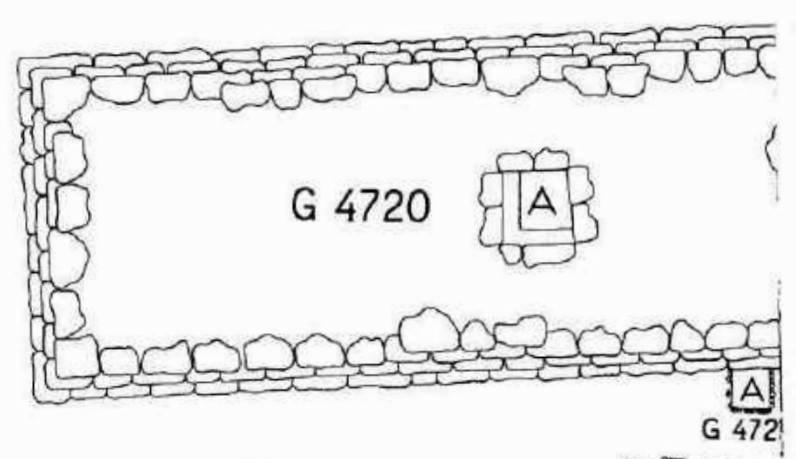
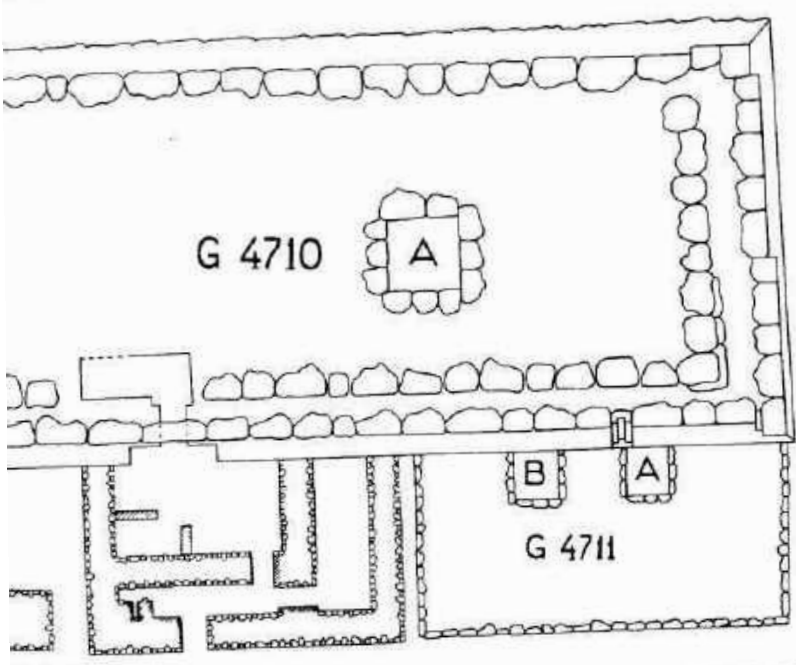
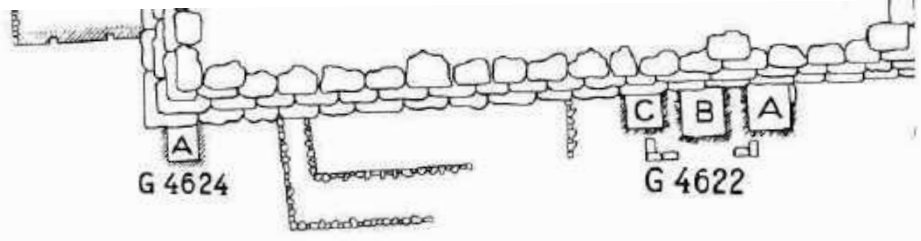
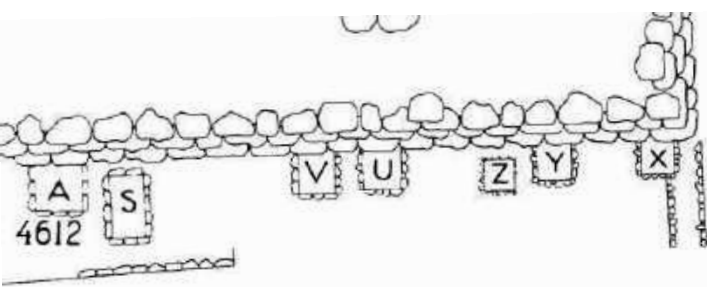
G 4814

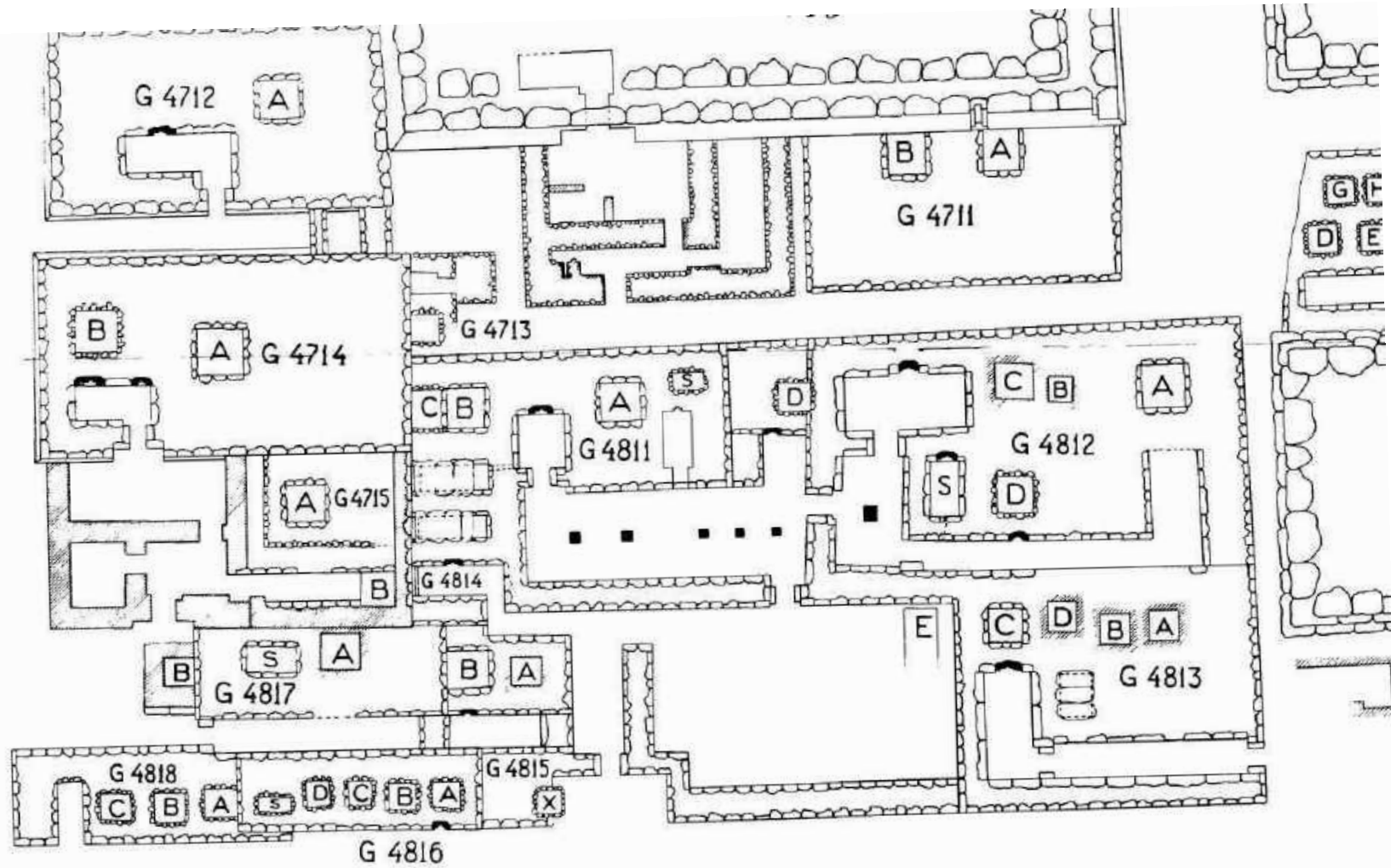
G 4813

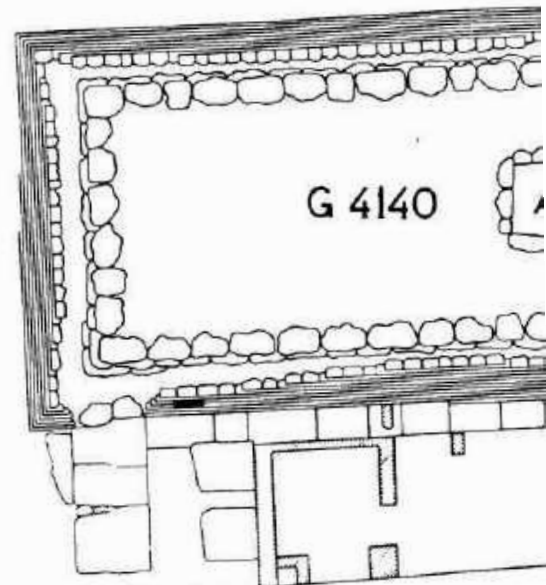
G 4818

G 4815

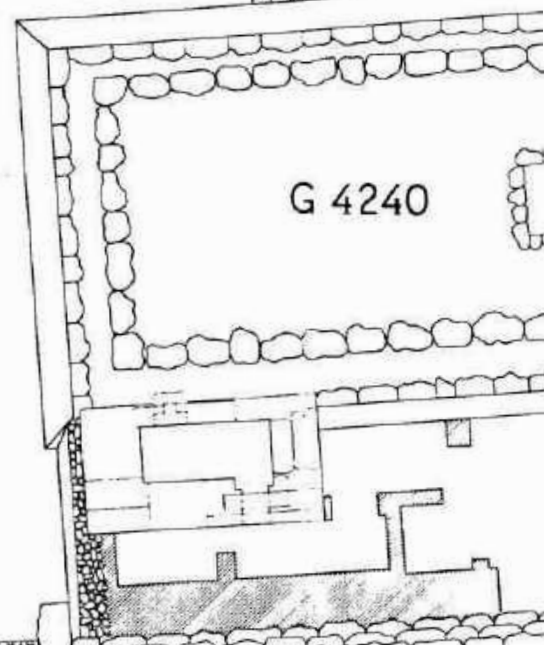




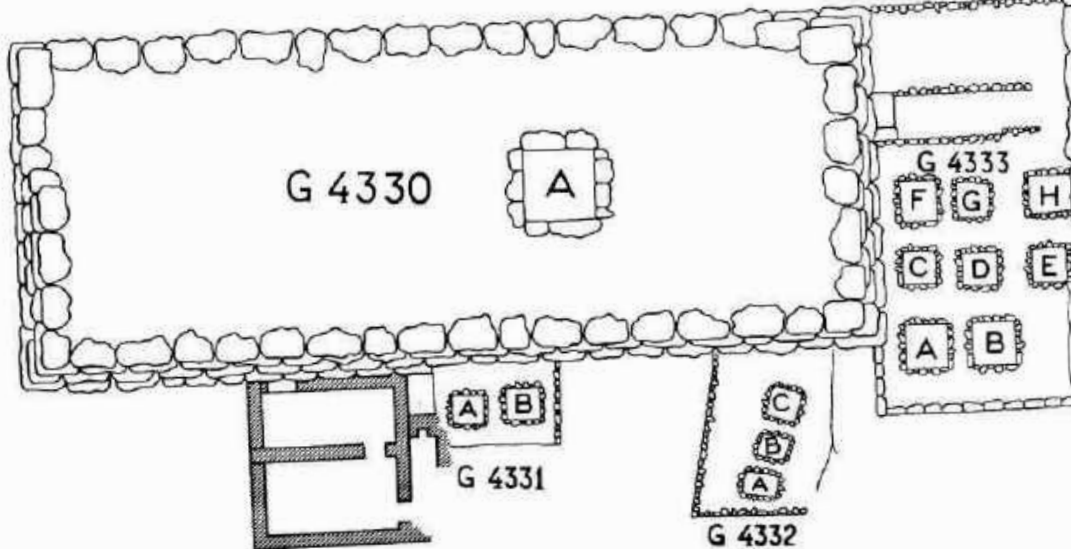




G 4140



G 4240



G 4330

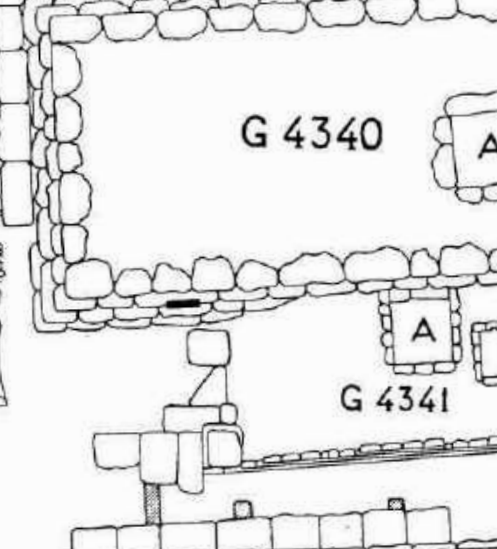
A

G 4333

F G H
C D E
A B

A B
G 4331

C
B
A
G 4332

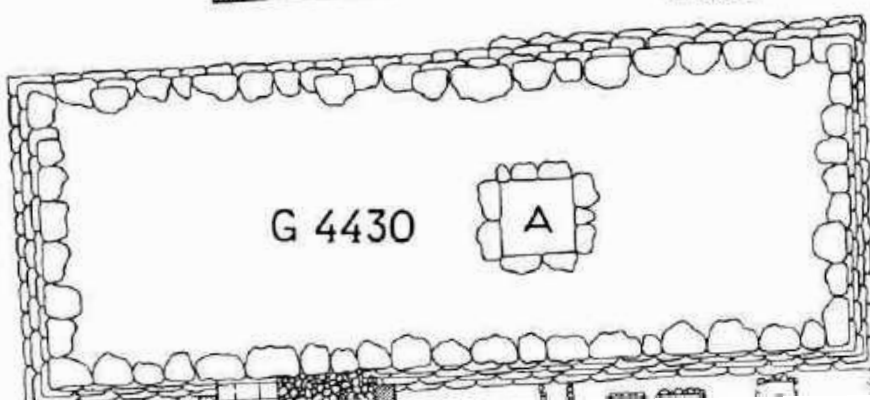


G 4340

A

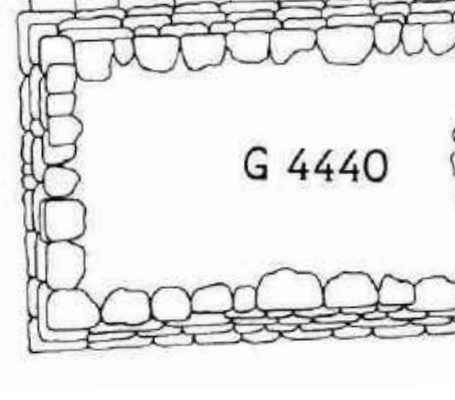
G 4341

A

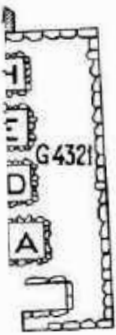


G 4430

A



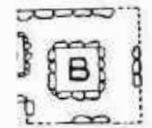
G 4440



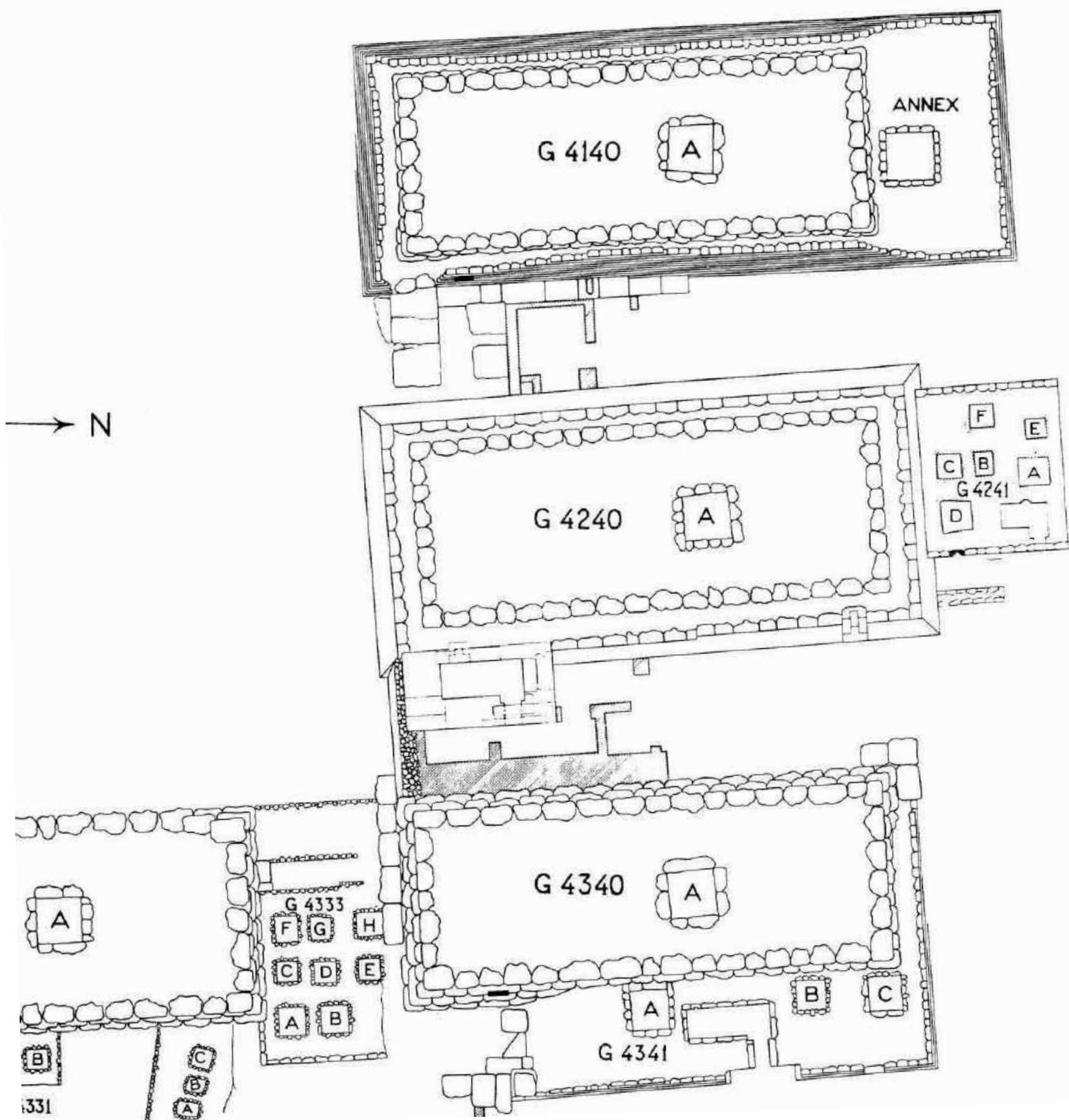
G 4321

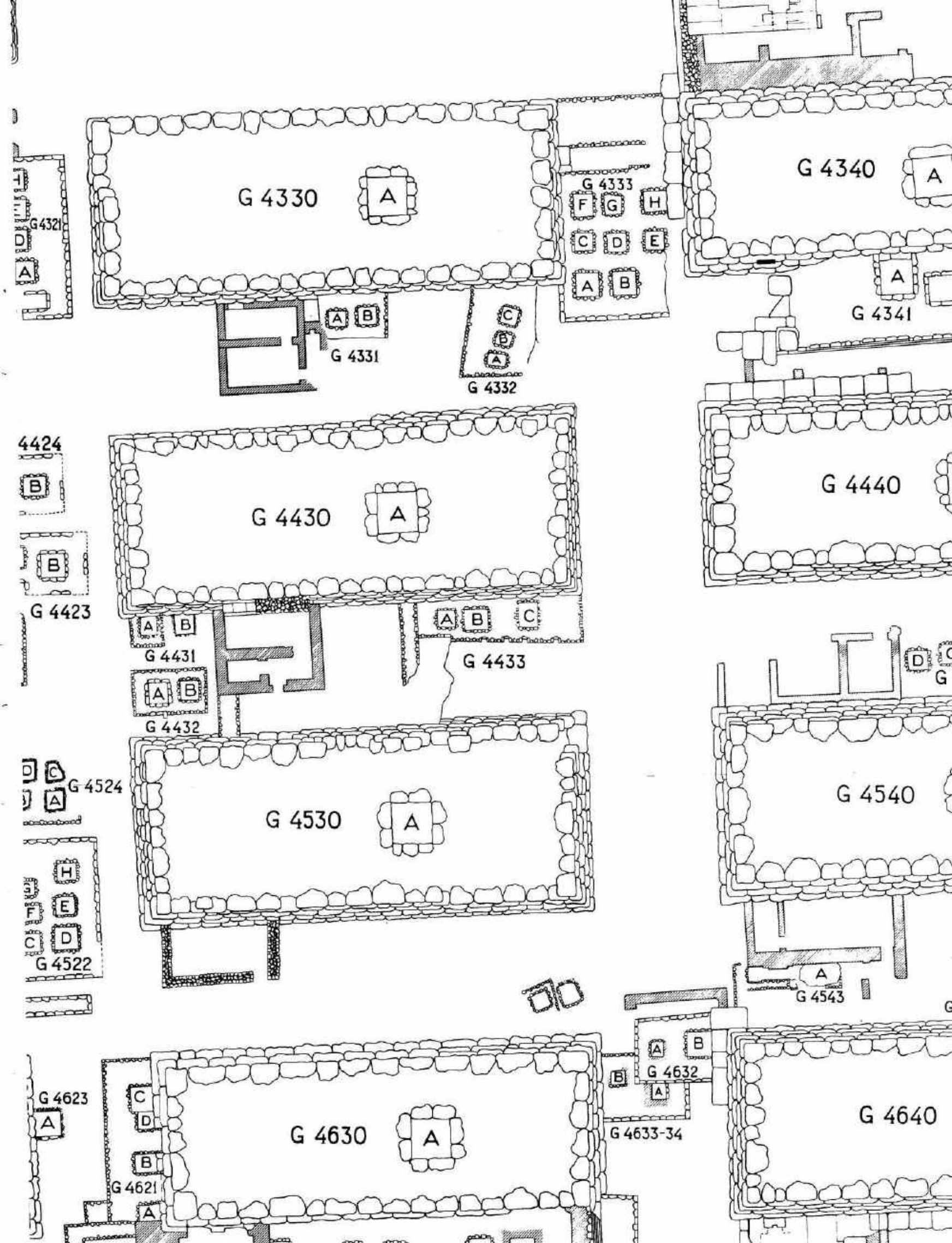


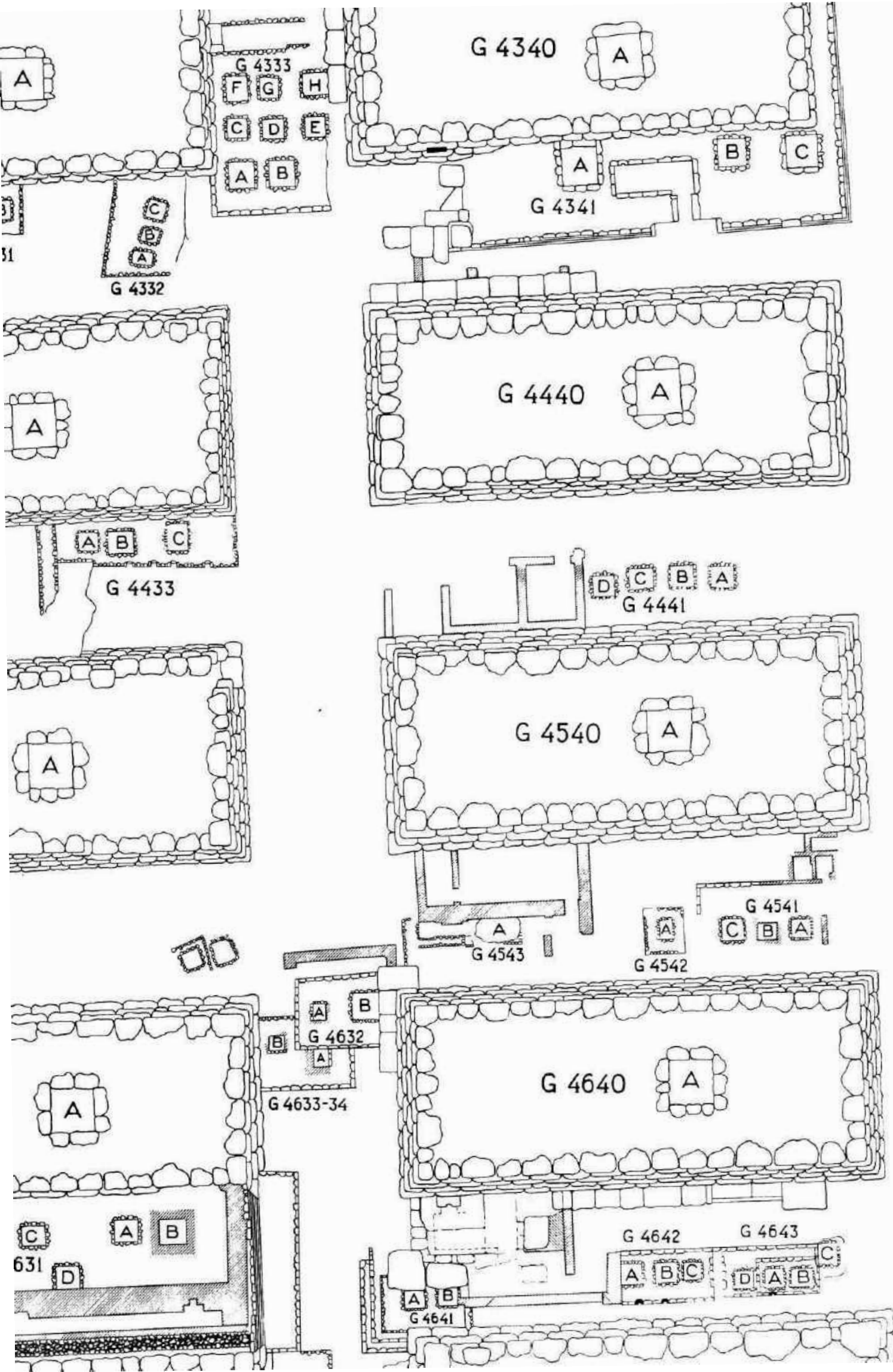
G 4424

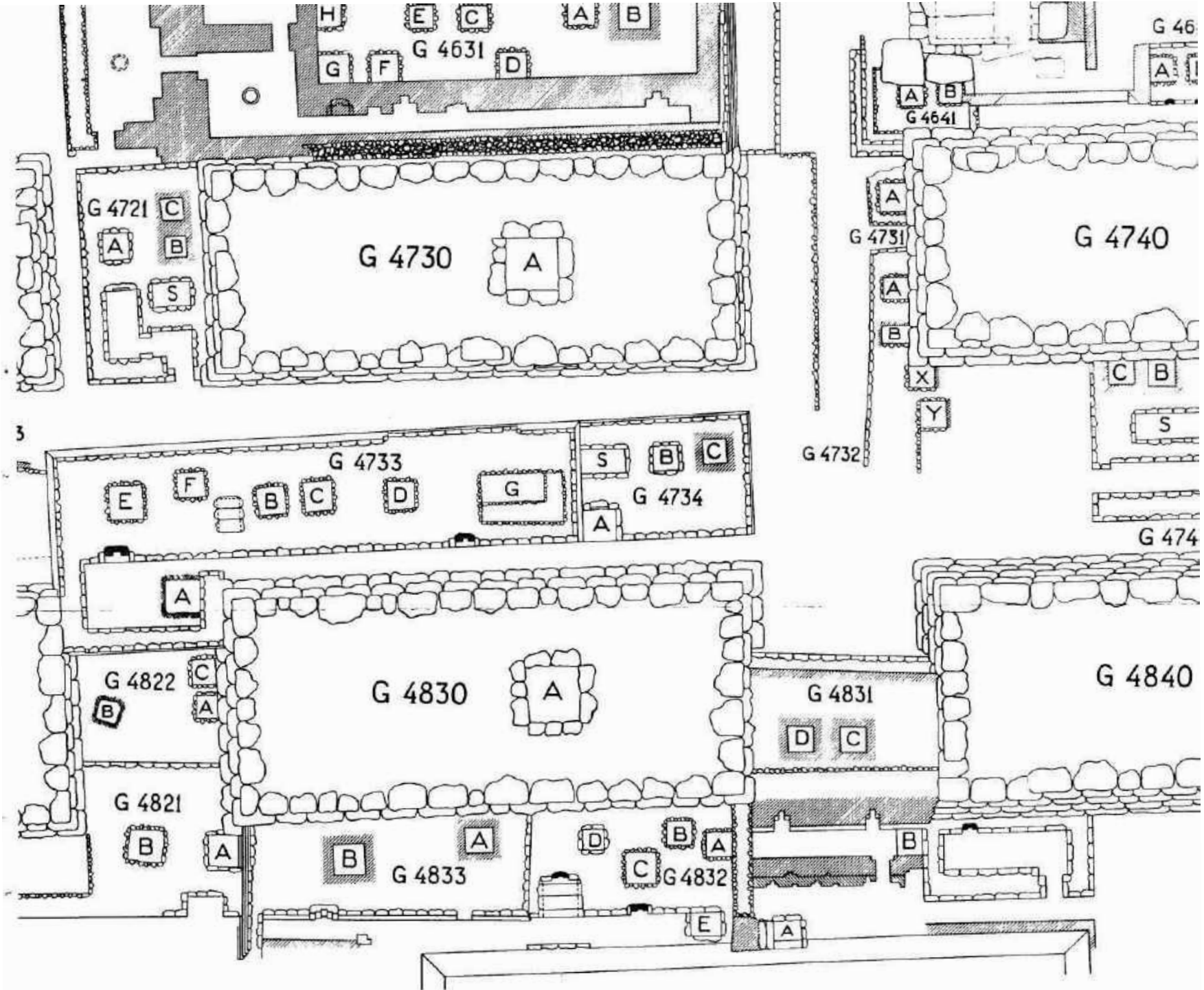


G 4423



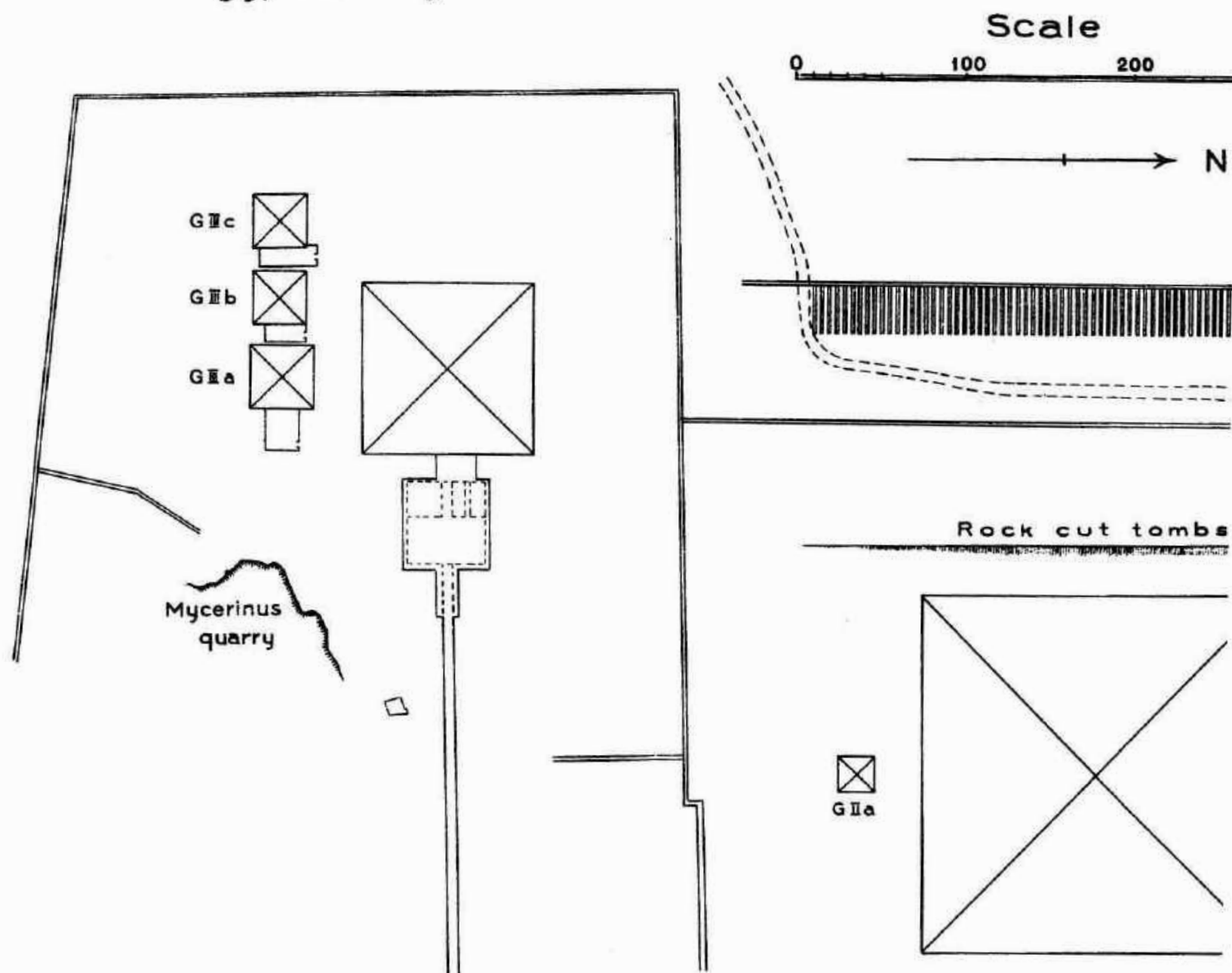






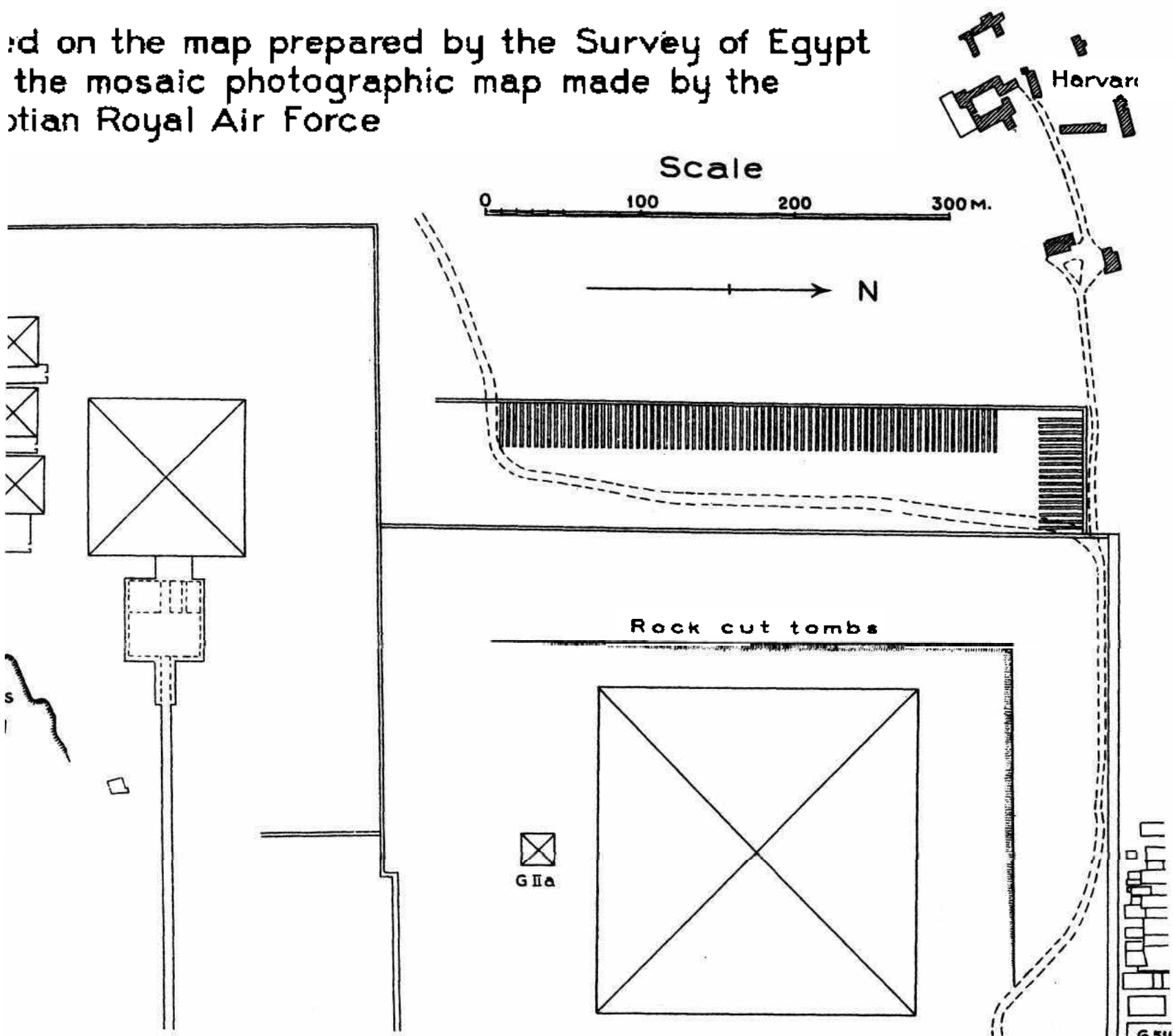
GENERAL MAP OF THE GIZA NECROPOLIS

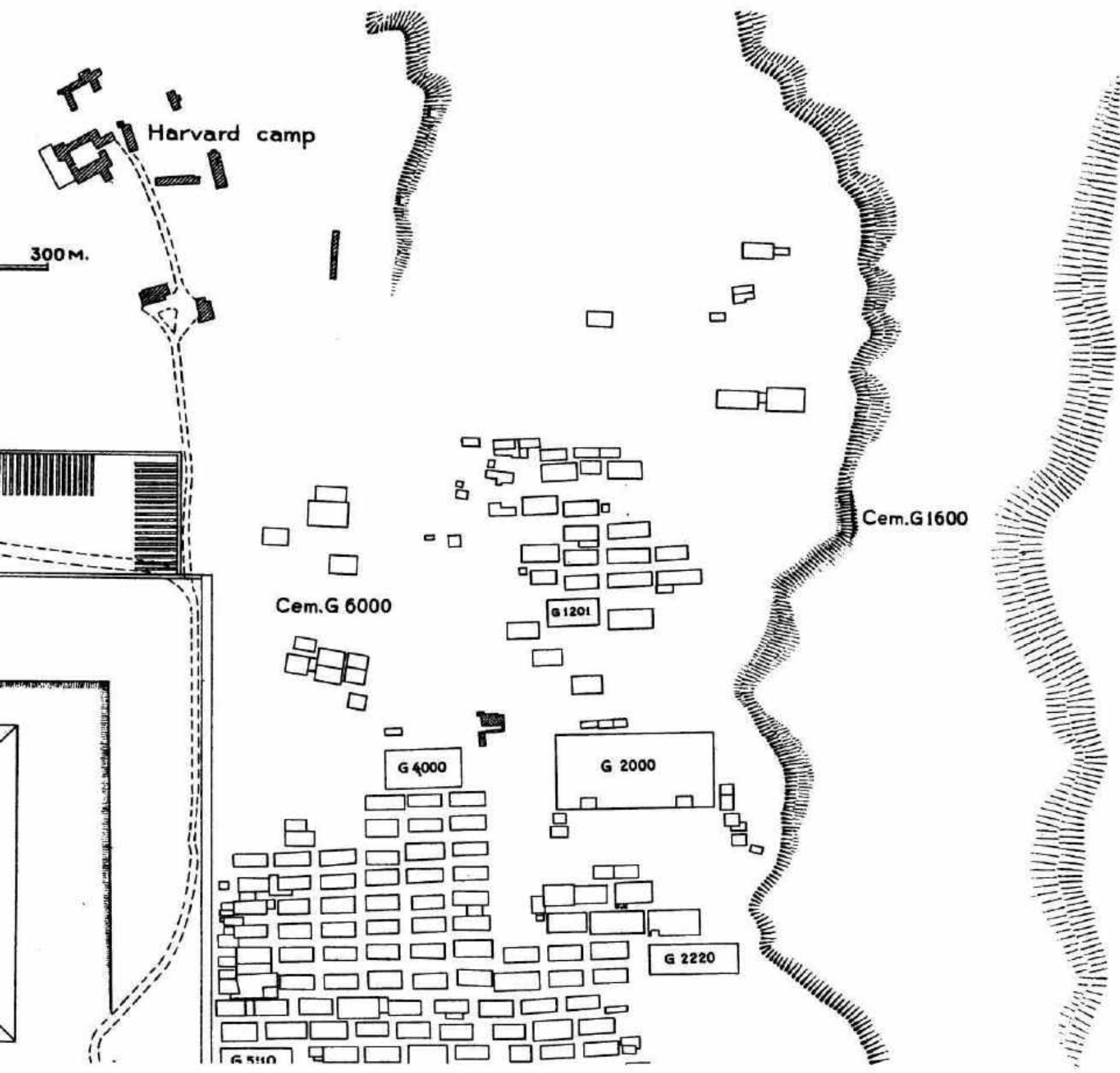
based on the map prepared by the Survey of Egypt
and the mosaic photographic map made by the
Egyptian Royal Air Force



GENERAL MAP OF THE GIZA NECROPOLIS

Based on the map prepared by the Survey of Egypt
and the mosaic photographic map made by the
British Royal Air Force

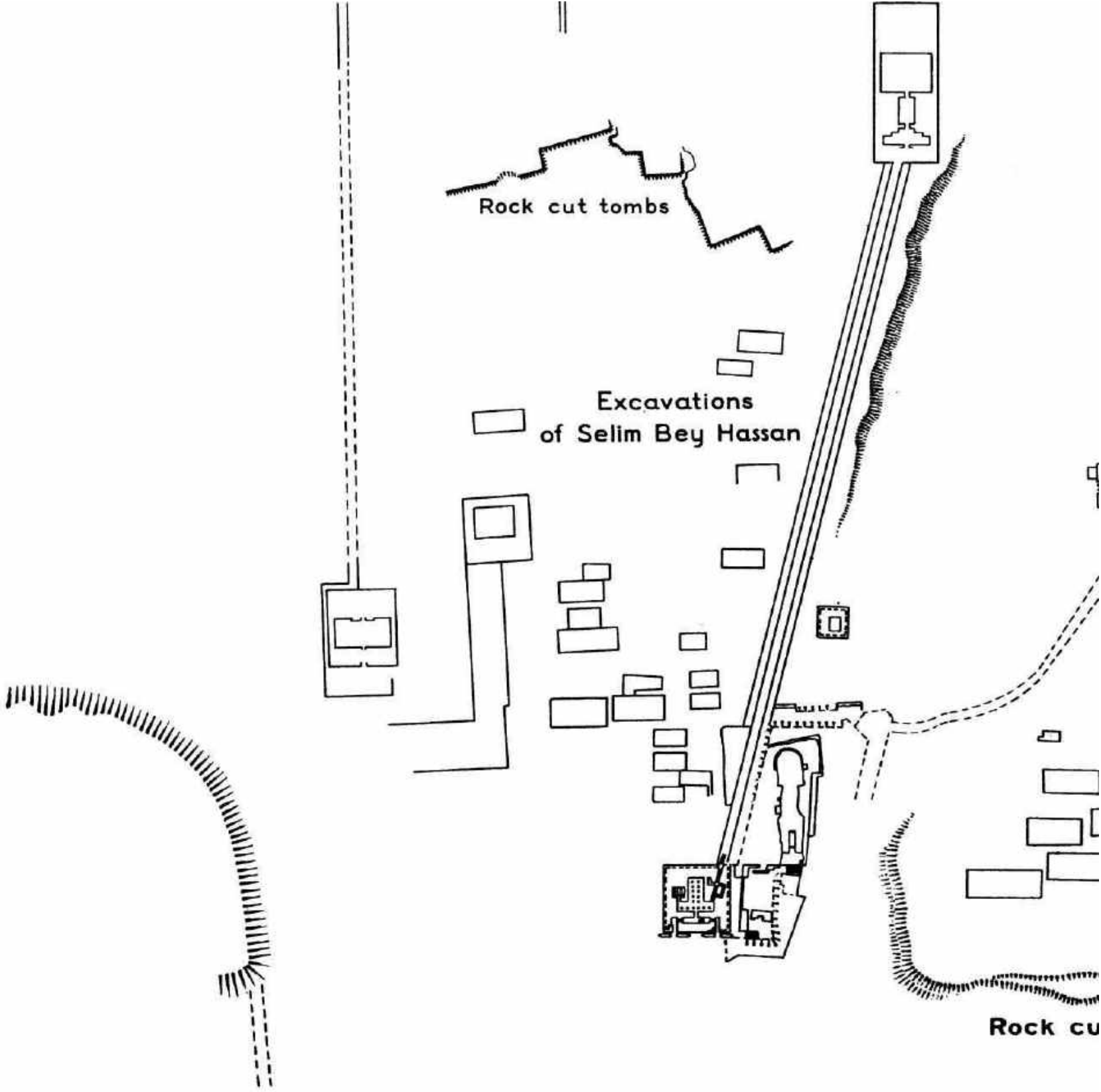


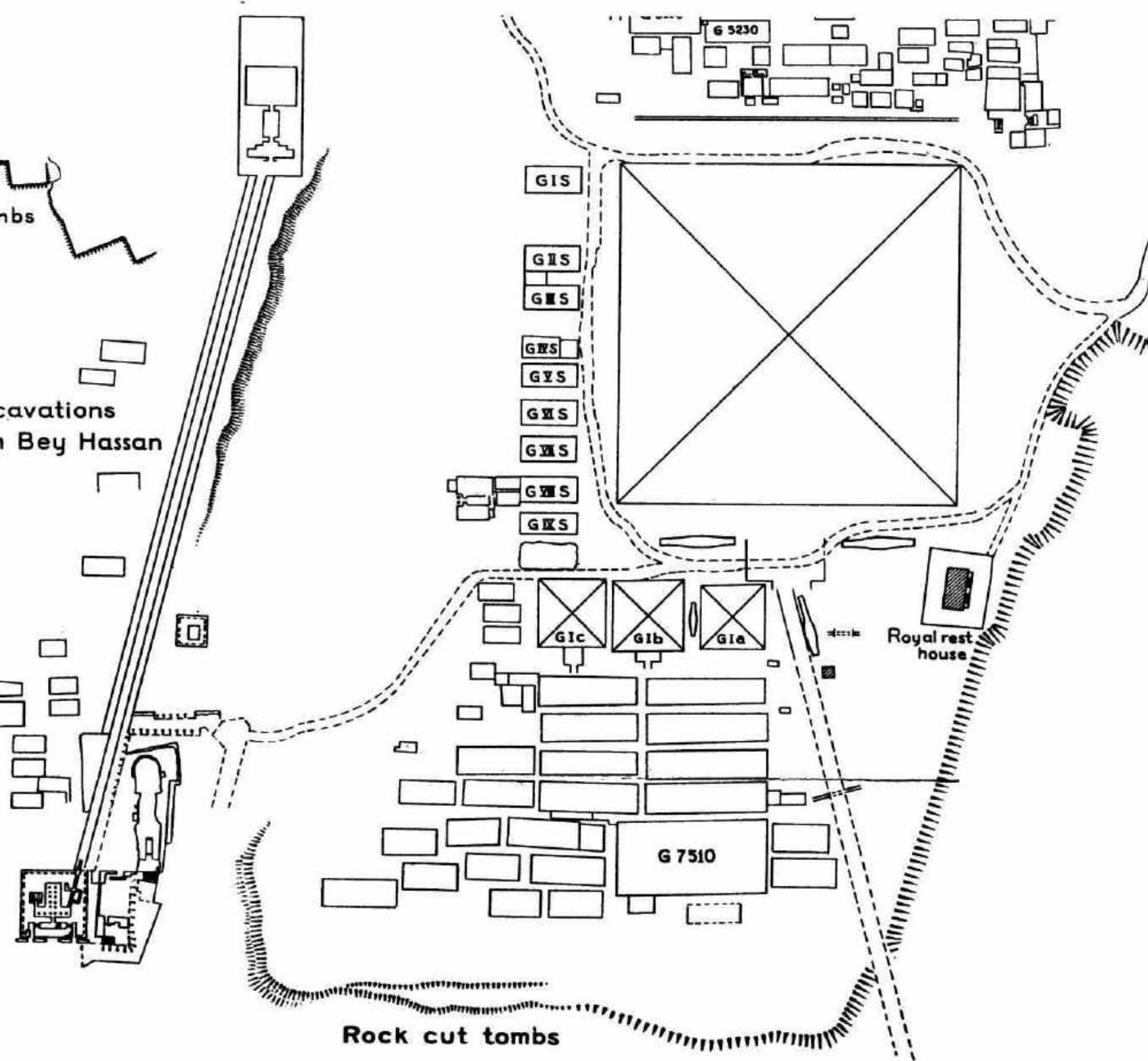


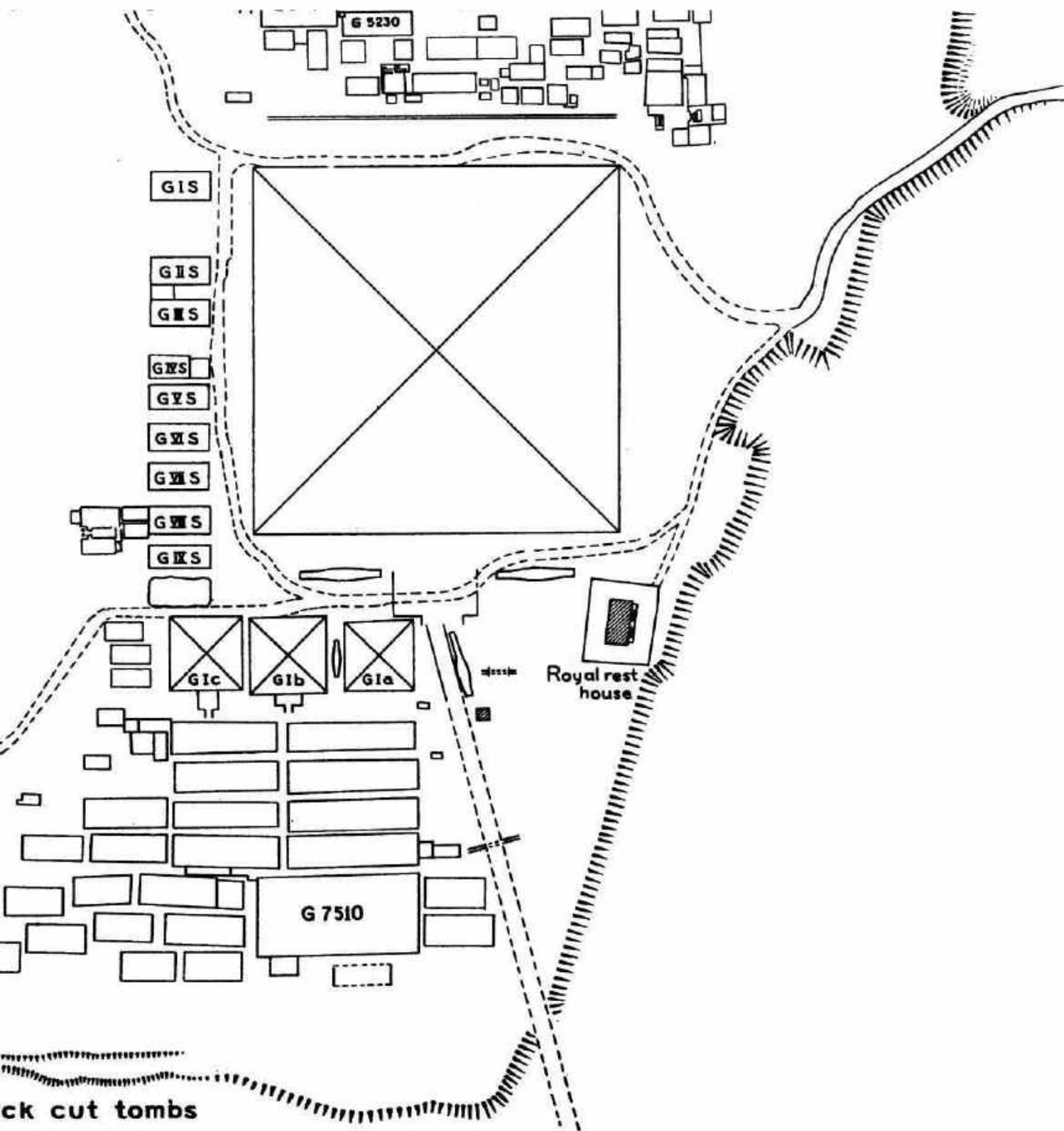
Rock cut tombs

Excavations
of Selim Bey Hassan

Rock cu

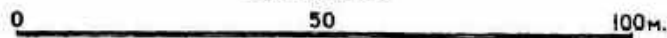


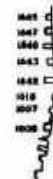
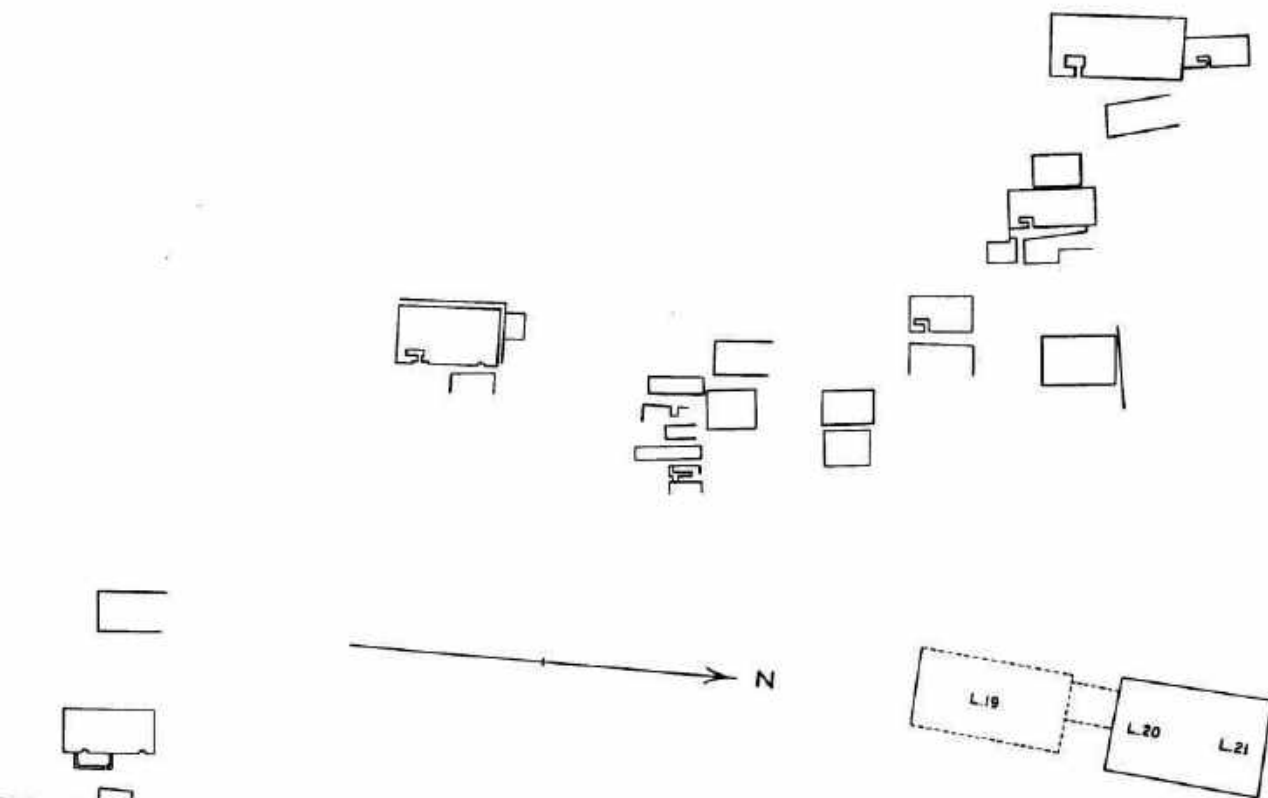


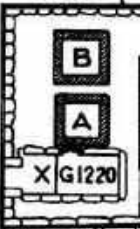
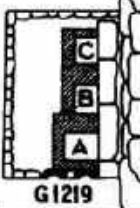
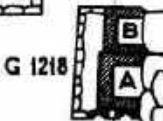
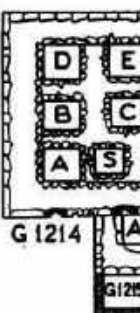
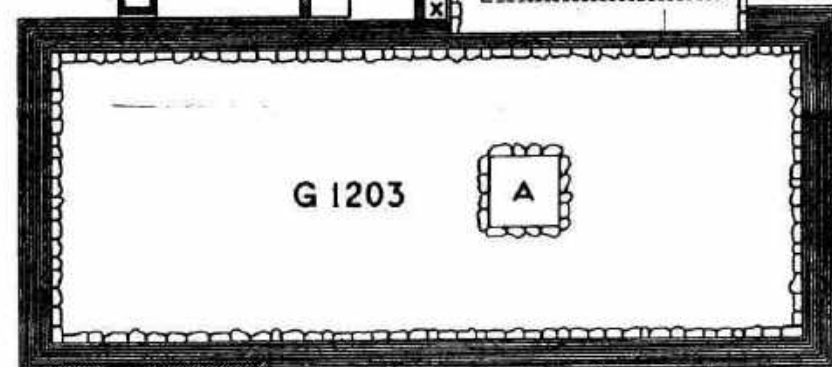
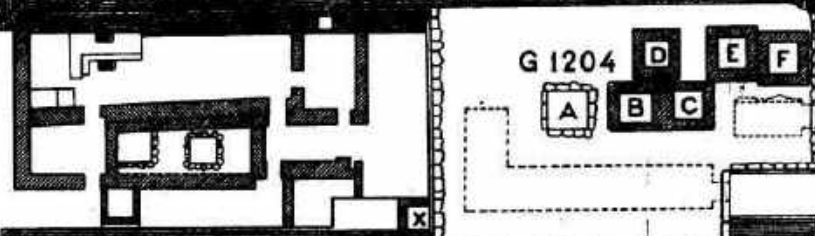
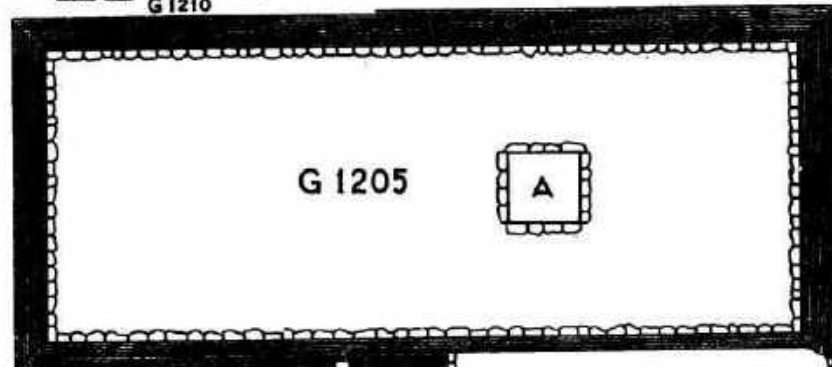
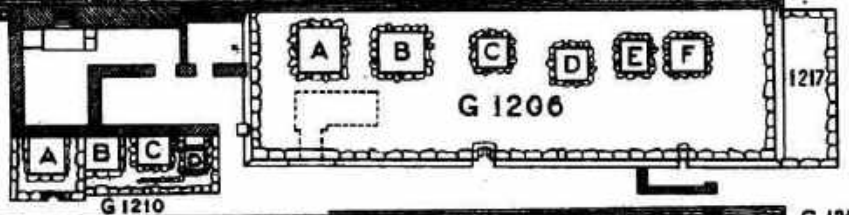
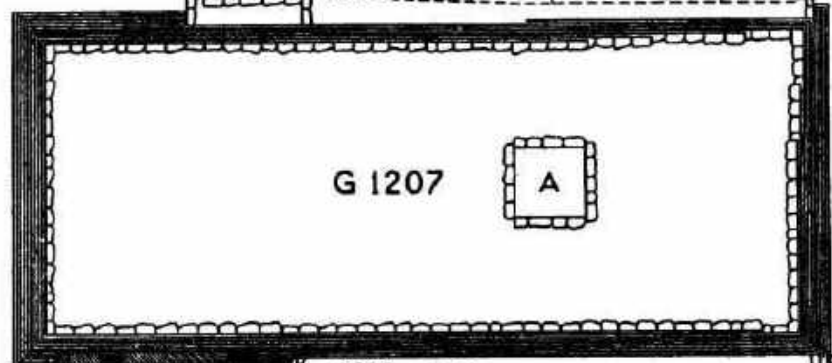
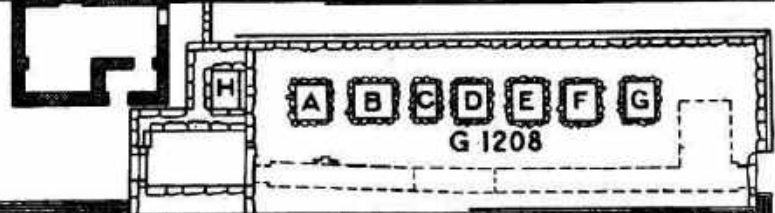
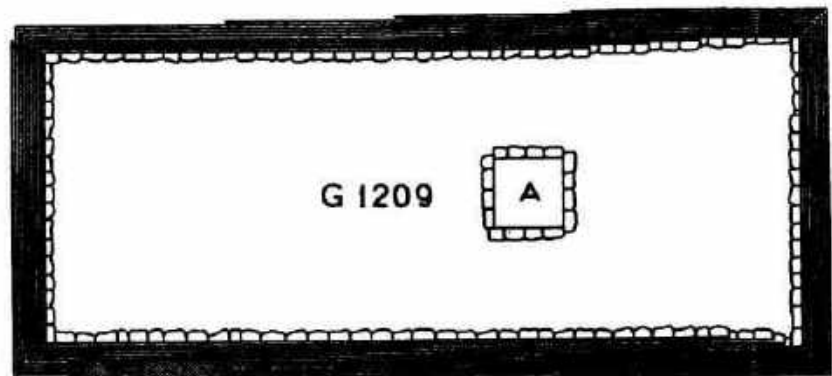


MAP OF WESTERN CEMETERY

Scale



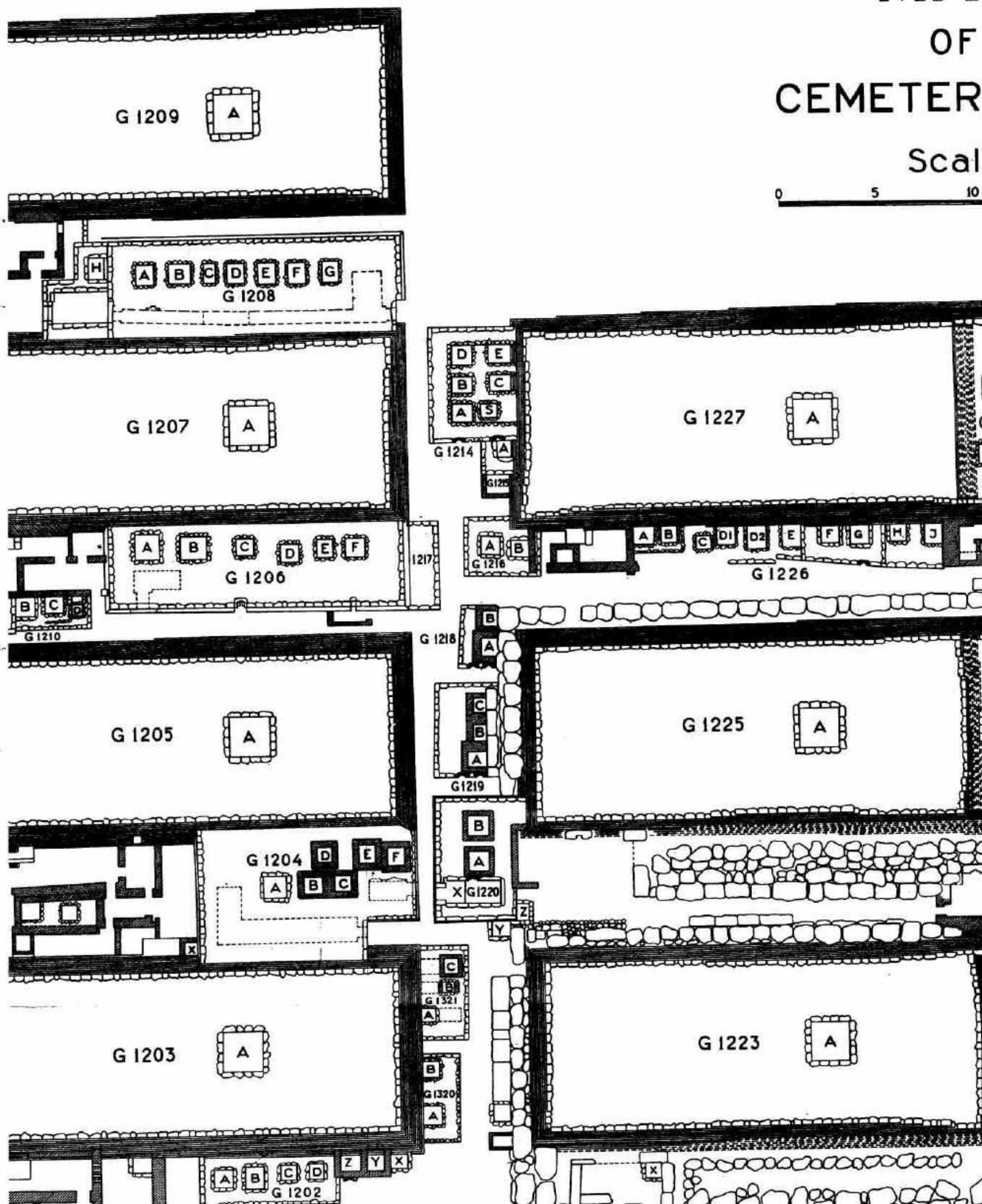




MAP OF CEMETER

Scale

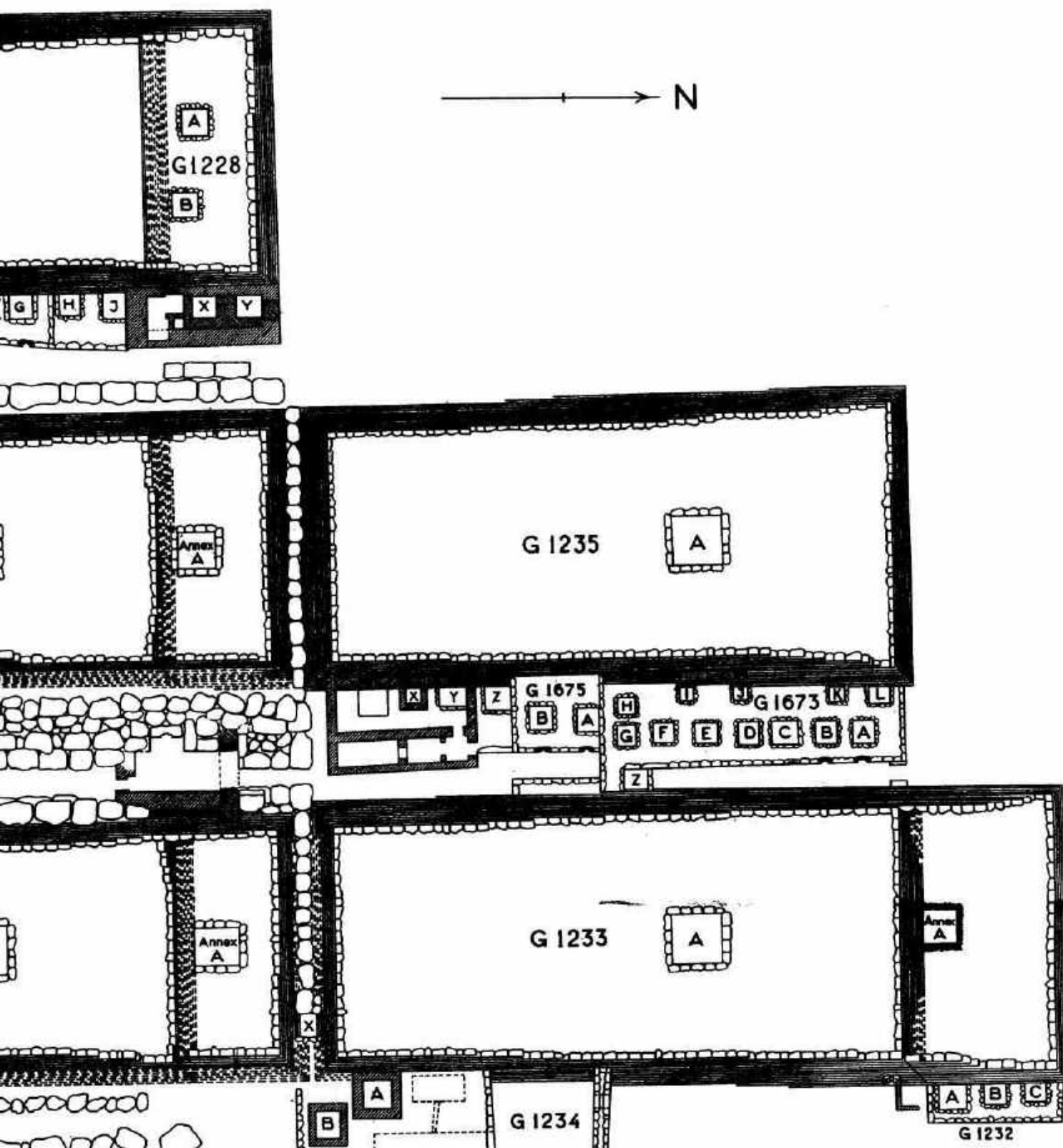
0 5 10



MAP OF METERY G 1200

Scale

5 10 15 20 M



G 1205



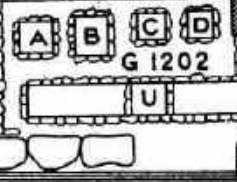
G 1204



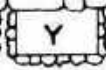
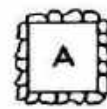
G 1203

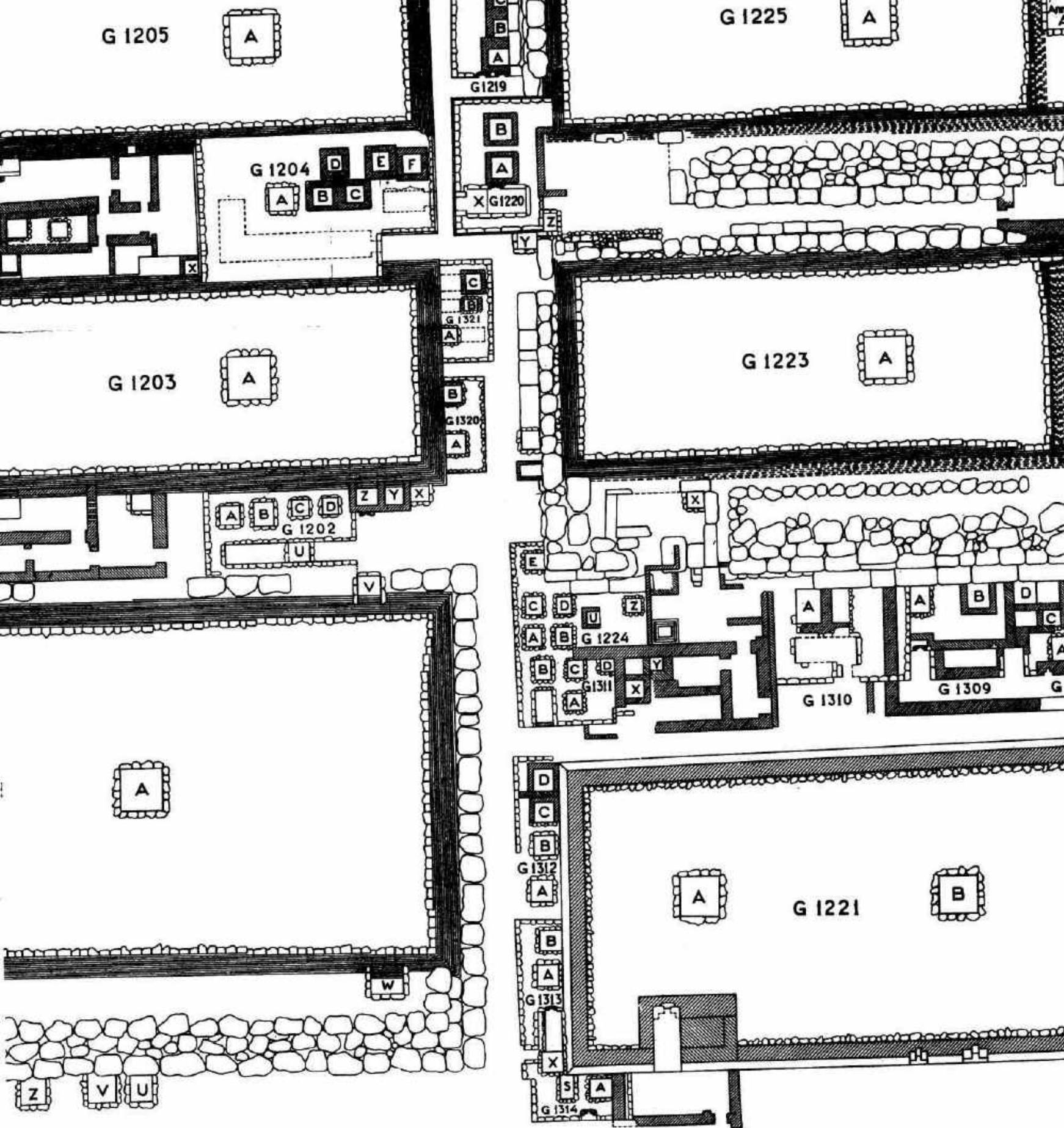


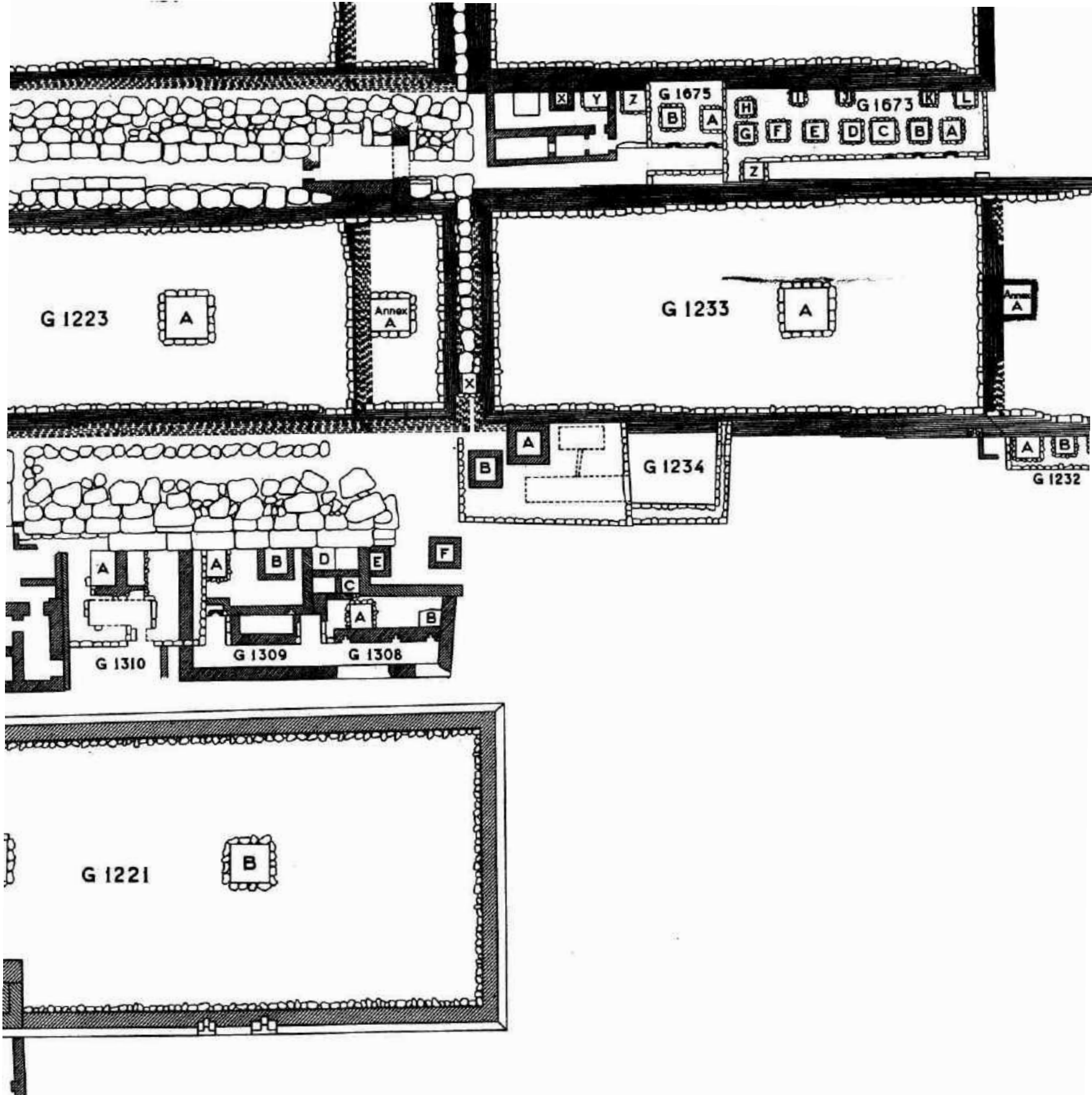
G 1202



G 1201





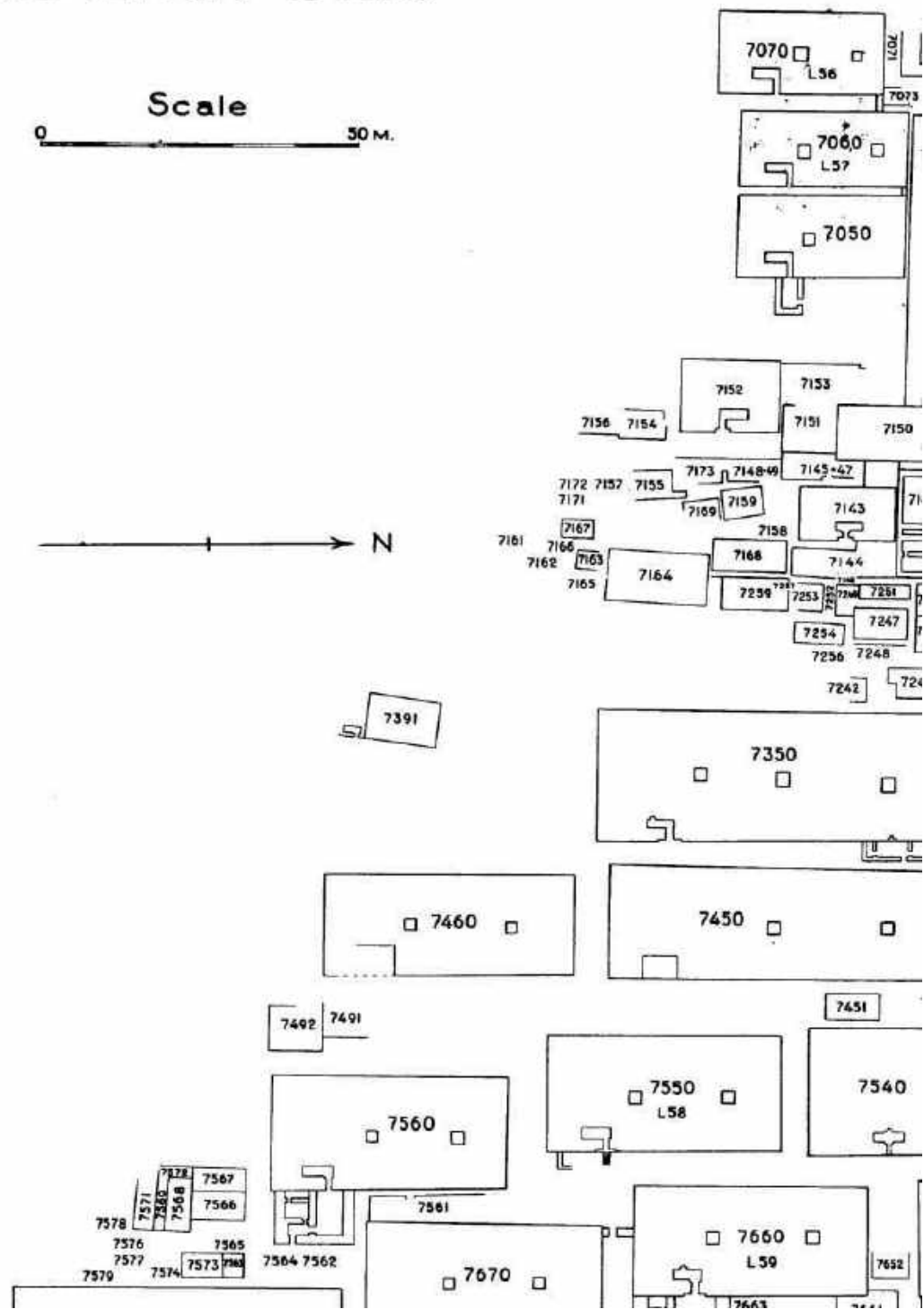


Surveyed and drawn by A. Floroff
Traced by N. Melnikoff

MAP OF CEMETERY G 7000

Scale
0 30 M.

N



MAP OF ATTERY G 7000

Scale

50 M.

N

